CLEARWATER
GROUP
Environmental Services

FILE COPY

October 21, 2005

Ms. Darcy M. Bering, R.E.H.S
Environmental Health Specialist III
Leaking Underground Storage Tank Local Oversight Program
Sonoma County Department of Health Services - Environmental Health Division
1030 Center Drive, Suite A
Santa Rosa, CA 95403-2067

Re: **Site Closure Activity Summary**
Dave's Pit Stop, 7001 Highway 116, Forestville CA
SCDHS-EHD Site # 00002400
Clearwater Group Project No. ZB187D

Dear Ms. Bering,

The Clearwater Group (Clearwater), on behalf of Dave's Pit Stop, is pleased to present this letter report of activities associated with well abandonement activities conducted at the above-referenced site in Sonoma County.

SITE DESCRIPTION

Dave's Pit Stop, the subject property, is a combination gas station and mini market. The Pit Stop currently supplies gasoline from a double-wall steel, fiberglass coated underground storage tank (UST) system which was installed in 1999. The site rests in the Russian River Valley Basin in Sonoma County (**Figure 1**). The predominant slope at the site is to the east and south. The property is underlain by a dark brown sandy silt with gravel to a depth of about 5 feet below ground surface (bgs). From 5 to 20 feet bgs, the underlying sediments are composed of a homogenous light brown, poorly graded fine sand. Groundwater occurs at the site between 7 to 11 feet bgs. Groundwater gradient follows site topography to the east.

229 Tewksbury Avenue ◆ Point Richmond, California 94801 ◆ Telephone: 510-307-9943 ◆ Fax: 510-232-2823

BACKGROUND

Prior to May 1999, the Pit Stop dispensed fuel from three USTs located along the southern edge of the store building. On May 20, 1999, Clearwater oversaw the removal of these tanks: one 4,000-gallon and two 6,000-gallon gasoline tanks. Following UST removal activities, the Sonoma County Department of Health Services - Environmental Health Division (SCDHS) requested that the site owner, retain an environmental consultant to conduct a preliminary site assessment of the property. In response to this request, Clearwater performed a limited site assessment of the property in November 1999 using Geoprobe™ methods to collect soil and water samples from 7 probe points (B-1 through B-7 on **Figure 2**).

Due to the presence of a possible residual dissolved-phase gasoline plume discovered during the Geoprobe™ study, the SCDHS requested the installation of monitoring wells at the project site to monitor groundwater flow, gradient, and possible contaminant migration patterns. To accomplish this, Clearwater oversaw the drilling of three soil borings and the subsequent conversion to three groundwater monitoring wells in the vicinity of the former fueling system on November 24, 2000.

Following the installation of these monitoring wells, quarterly groundwater monitoring was performed for six continuous quarters from December 1999 to March 2002. At the end of these monitoring events, the only gasoline hydrocarbons detected within site groundwater were methyl tertiary butyl ether (MTBE) and tertiary amyl methyl ether (TAME), the distribution was limited almost exclusively to MW-1 at concentrations of 33 micrograms per liter (µg/L), and 0.67 µg/L, respectively. Based on the low concentrations of MTBE and TAME at the site, the extremely limited distribution, Clearwater recommended in its *Groundwater Monitoring Report, First Quarter 2002*, dated May 20, 2002, that the site be considered for closure. In response to this recommendation, the SCDHS, in correspondence dated June 12, 2002, stated " the site is not a candidate for closure at this time. Continued groundwater monitoring is required until there is a clear diminishing trend of contamination." Groundwater monitoring activites continued at the project site through the second quarter of 2004. By this time an overall diminishing trend in contaminant concentrations had been established.

Clearwater recommended in its *Groundwater Monitoring Report, Second Quarter 2004,* dated July 9, 2004, that the site be considered for closure once more.

On August 3, 2004, Ms. Darcy Bering, a Registered Environmental Health Specialist with the SCDHS, notified Clearwater personnel via telephone of the local oversite program's (LOP) recommendation to the North Coast Regional Water Quality Control Board (NCRWQCB) that the site be granted closure. The groundwater monitoring program was suspended at the site and Ms. Bering requested that well abandonment activities be initiated. The request for well abandoment activities was memorialized in the SCDHS October 19, 2004 letter (**Attachment A**). The SCDHS also stated that the NCRWQCB had concurred with the recommendation for site closure and that a Remedial Action Completion Certification letter would be issued once the groundwater monitoring wells were properly abandoned and all investigative derived wastes had been disposed of accordingly.

SITE CLOSURE ACTIVITIES

Purge Water Disposal

On August 20, 2005, Clearwater personnel transported the purge water collected during the second quarter 2004 event to Instrat Disposal Facility located in Rio Vista, CA. A copy of the disposal manifest is included (**Attachment B**). This was the final waste water disposal event associated with the groundwater monitoring program for this site.

Monitoring Well Abandonement Activities

The permit application to destroy the three groundwater monitoring wells (MW-1, MW-2 and MW-3) was submitted to the SCDHS by Clearwater personnel on January 6, 2005. The proposed well abandonment activities were described in a brief letter to the SCDHS on January 18th and a copy of the site specific Health and Safety plan was faxed to the SCDHS on January 24, 2005 (**Attachment C**). Upon receiving the Health and Safety plan the SCDHS issued the permit for the proposed monitoring well abandonment (**Attachment D**).

In accordance with the requirements of Underground Service Alert (USA) services, Clearwater personnel prepared the project site for drilling by outlining the excavation areas in white paint on February 14, 2005. USA was then notified of the proposed

drilling event on February 25, 2005. On March 2, 2005, under the surpervision of Clearwater personnel, Gregg Drilling of Martinez, California, a C-57 licensed drilling company (license number 485165) abandoned the monitoring wells. The monitoring wells were abandoned by removing each of the well vaults (**Photo 1, Attachment E**), over-drilling the blank casings (**Photo 2, Attachment E**) and removing the well screens from the bore holes (**Photo 3, Attachment E**). The borings were then completed flush with the surface using the tremmie grout method (**Photo 4, Attachment E**). A copy of the Clearwater personnel's field notes describing the onsite well abandonment activities are included (**Attachment F**).

For the purpose of waste profiling and disposal, soil samples were collected into brass sleeves from the drill cuttings produced during the overdrilling of each of the monitoring wells. The soil samples were labeled, documented on a chain of custody and placed on ice for transport to the project laboratory. The soil samples were then composited into one sample by Kiff Analytical LLC, a California Department of Health Services laboratory located in Davis, California. The composite sample (MW-3, 1, 2) was then analyzed for concentrations of TPHg, BTEX, MTBE, DIPE, ETBE, TAME and TBA by EPA Method 8260B. Kiff Analytical did not report any detectable concentrations above the standard reporting limits for any of the constituents of concern, see Kiff Analytical Report Number 42621 included (**Attachment G**). The composite sample was also analyzed for concentrations of the 17 California Action Metals (CAM-17) by the Kiff Analytical sub-contracted laboratory Calscience Environmental Laboratories, Inc. of Garden Grove, California using EPA methods 6010B and 7471A. Refer to the Calscience work order number 05-03-0285 included as an attachment to the Kiff Analytical report for a complete list of CAM 17 metals and their results.

Well Abandonment Overdrilling Solids Waste Disposal

Upon receiveing the analytical results, Clearwater personnel completed the appropriate waste profile forms and requested that Redwood Landfill, Inc. a waste management company located in Novato, California accept the soil for disposal. The waste profile forms were faxed to Redwood Landfill on March 25, 2005. After a two week period had passed, Clearwater personnel repeatedly contacted Redwood Landfill to inquire about the soil disposal. On May 11, 2005, Mr. Whitney King of Redwood Landfill informed Clearwater personnel that Redwood Landfill had admended their disposal policies and

could no longer accept the generator's representative (i.e. environmental consultant) signature on the waste disposal request forms. Clearwater forwarded the waste profile forms to Dave's Pit Stop and requested that a person authorized to sign complete the forms and return them to Redwood Landfill so the waste disposal could be completed. The new forms were sent to Redwood Landfill by Dave's Pit Stop on May 20, 2005. After repeated attempts to schedule the soil disposal with Redwood Landfill, the soil was finally disposed of on August 11, 2005. A copy of the disposal ticket received from Redwood Landfill is included (**Attachment H**).

Department of Water Resources Forms

On April 1, 2005, Clearwater personnel completed a State of California Well Completion Form (DWR Form Number 188) for each of the groundwater monitoring wells destroyed at the project site. The forms were forwarded to Gregg Drilling for signature. Mr. Christopher Pruner of Gregg Drilling signed the forms as the authorized drilling representative on April 12, 2005 and returned them to Clearwater for distribution to the appropriate agencies (**Attachment I**).

CONCLUSIONS AND RECOMMENDATIONS

The groundwater monitoring wells were abandoned under permit received from the SCDHS and in accordance with the State of California Monitoring Well Standards. All investigative and well abandonment wastes have been documented and properly disposed of at the appropriate disposal facilities. Clearwater recommends that the project be closed and that the NCRWQCB issue a Remedial Action Completion Certification.

CLEARWATER
GROUP
Environmental Services

CERTIFICATION

This report was prepared under the supervision of a professional State of California registered geologist at Clearwater. All statements, conclusions, and recommendations are based solely upon field observations by Clearwater, and analyses performed by a state-certified laboratory related to the work performed by Clearwater.

Information and interpretation presented herein are for the sole use of the client and regulating agency. The information and interpretation contained in this document should not be relied upon by a third party.

The service performed by Clearwater has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

Jessica Chiaro-Moreno
Project Manager

Jim A. Jacobs, P.G. No. 4815, C.H.G. No. 88
Chief Hydrogeologist

PROFESSIONAL GEOLOGIST
JAMES ALAN
JACOBS
NO. 88
CERTIFIED
HYDROGEOLOGIST
STATE OF CALIFORNIA

CLEARWATER
GROUP
Environmental Services

FIGURES:

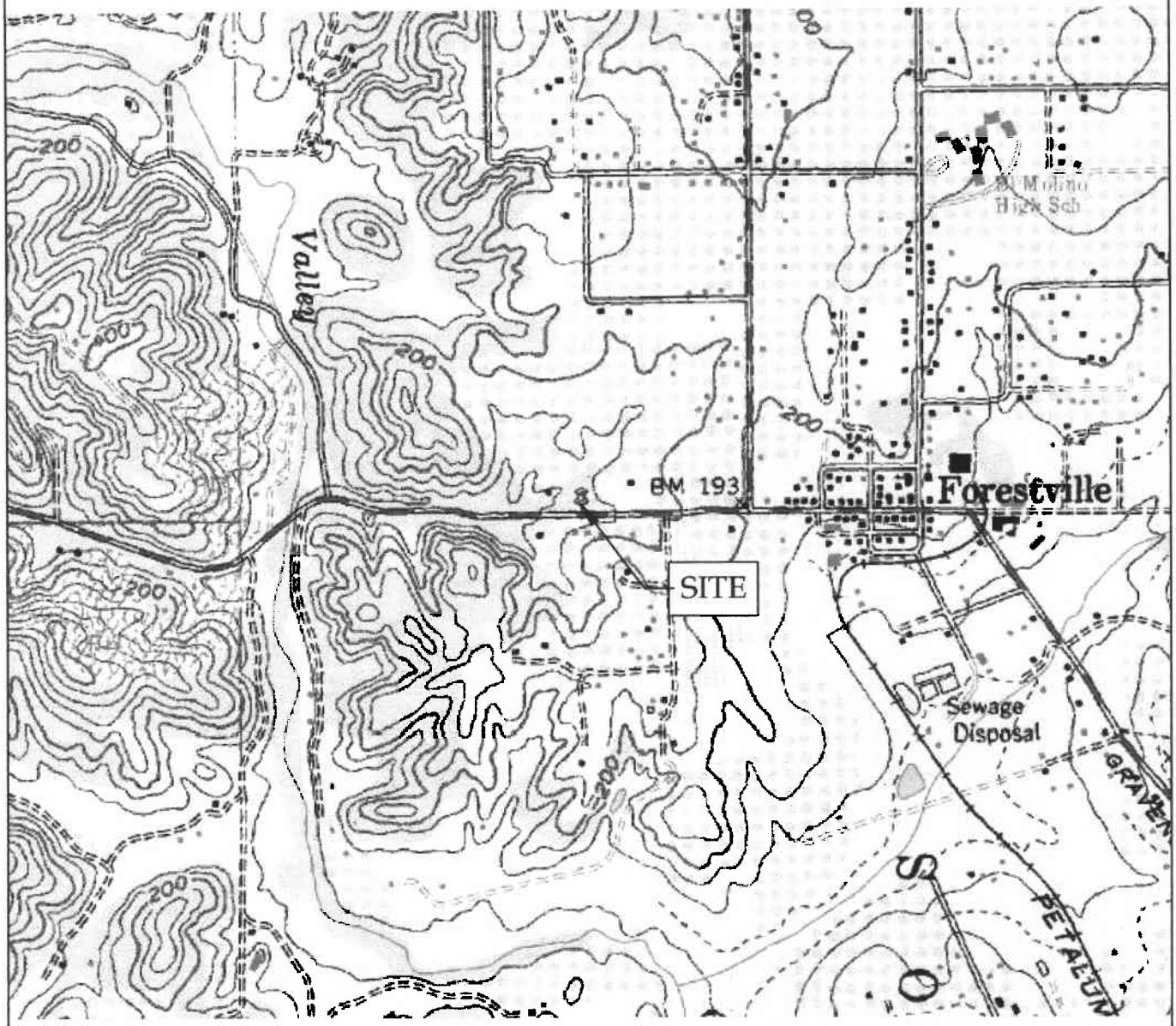
Figure 1: Site Location Map
Figure 2: Site Plan

ATTACHMENTS:

Attachament A: County Of Sonoma Department of Health Services letter dated 10/19/04
Attachment B: Purge Water Waste Manifest dated 8/20/04
Attachment C: Proposed Well Abandonment Activities and Site Specific Health and Safety Plan
Attachment D: County of Sonoma Department of Health Services Well Abandonment Permit
Attachment E: Photos 1 through 4 Documenting Well Destruction Activities
Attachment F: Clearwater Field Notes Document Well Destruction Activities
Attachment G: Kiff Analytical LLC Report Number 42621
Attachment H: Redwood Landfill Disposal Ticket (PC 065)
Attachment I: Department of Water Resources Well Completion Forms

Cc: Dave's Pit Stop, P.O. Box 7010, Santa Rosa, CA 95407
Mr. Luis Rivera, NCRWQCB, 5550 Skylane Boulevard, Suite A, Santa Rosa, CA 95403

Figures

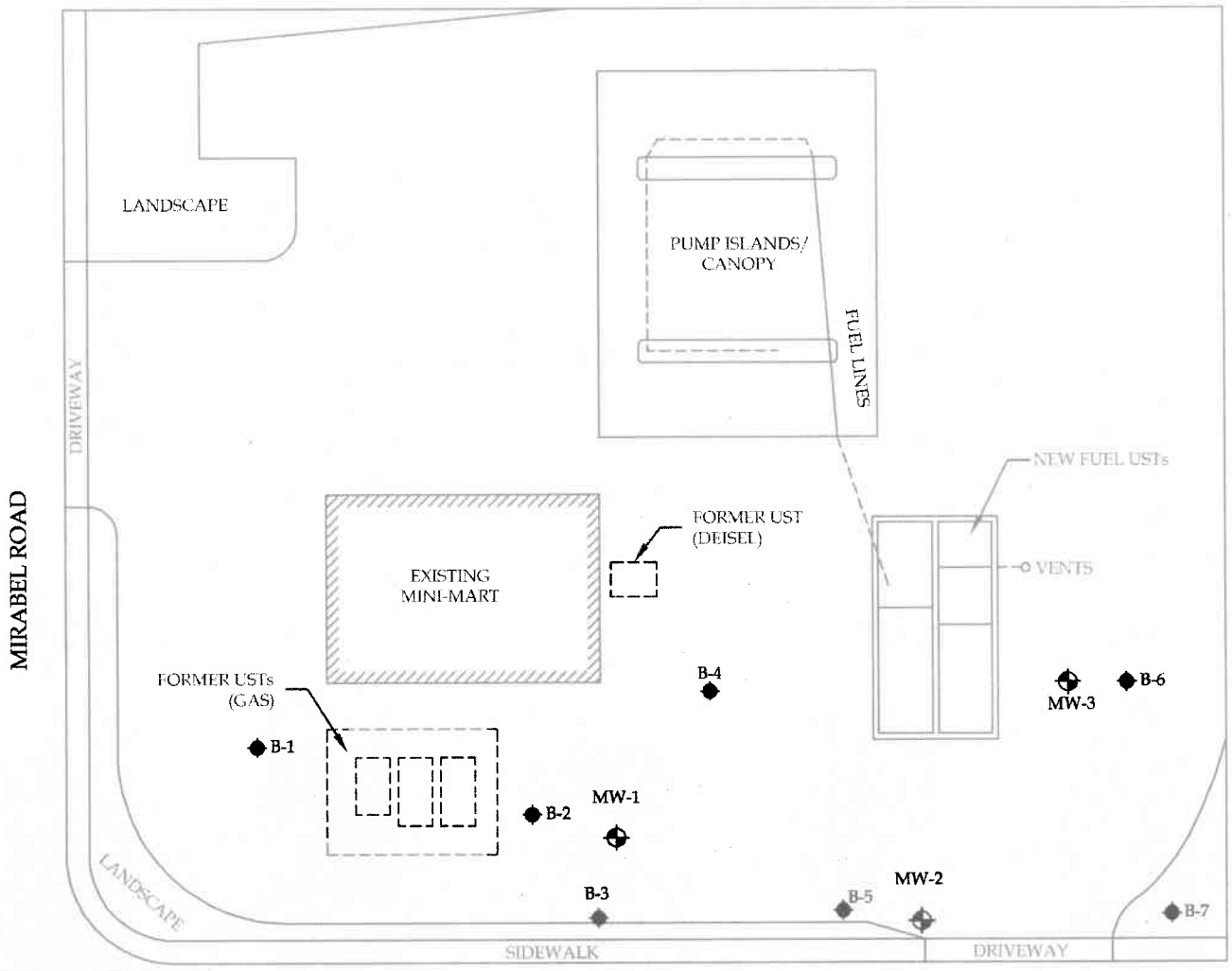


NOT TO SCALE

SITE LOCATION MAP
Dave's Pit Stop
7001 Highway 116 at Mirabel Road
Forestville, California

CLEARWATER GROUP

Project No.	Figure Date	Figure
ZB187D	**1/04**	**1**



LEGEND

- FUEL LINE
- MW-1 — MONITORING WELL WITH ID & GROUNDWATER
- B-1 — GEOPROPE ● BORING LOCATIONS WITH BORING IDs

0 30 60

APPROXIMATE SCALE IN FEET

N

SITE PLAN

Dave's Pit Stop
7001 Highway 116 at Mirabel Road
Forestville, California

CLEARWATER GROUP

Project No.	Figure Date	Figure
ZB187D	12/02	2

Attachment A

COUNTY of SONOMA
DEPARTMENT OF HEALTH SERVICES
Mark A. Kostielney - Director
Sharon Aguilera - Assistant Director
Environmental Health Division
Jonathan J. Krug - Director

October 19, 2004

Mr. Dave J. Zedrick
Dave's Pit Stop
P.O. Box 7010
Santa Rosa, CA 95407

Re: 7001 Highway 116, Forestville, CA
Leaking Underground Storage Tank Program
SCDHS-EHD Site #00002400, NCRWQCB Site #1TSO717, CU Fund #014811

Dear Mr. Zedrick:

This Department has reviewed the referenced site file and pertinent documents as part of the site closure process. Site closure has been recommended to the Regional Water Board and the Board **has concurred** with closing the site. However, a Remedial Action Completion Certification **cannot be issued** at this time for the reason noted below.

Pending Item:

1. The monitoring wells have not been properly destroyed under permit from this Department. An appropriate procedure to properly abandon the monitoring wells must be submitted by the well driller or your consultant along with a permit application and fee.

2. Purge water or equipment rinsate has not been appropriately disposed, or relevant documentation has not been submitted. Please dispose of any purge water, rinsate, drums or other containers in an appropriate manner. Disposal *must* be done by an acceptable method and documentation must be submitted to this Department for review.

Should you have any questions, please do not hesitate to contact me at (707) 565-6571.

Sincerely,

Darcy M. Bering
Registered Environmental Health Specialist
Leaking Underground Storage Tank Local Oversight Program

db

cc: Mr. Luis Rivera, NCRWQCB
Mr. David Charter, SWRCB Cleanup Fund
Robinson Oil Corp, Mr. Thomas Robinson, 4250 William Rd., San Jose, CA 95129
Clearwater Group, 229 Tewksbury Ave, Point Richmond, CA 94801

3273 Airway Dr., Ste. D, Santa Rosa, CA 95403-2097 • *phone* (707) 565-6565 • *fax* (707) 565-6525 • www.sonoma-county.org

Attachment B

L

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Doc. No.	2. Page 1 of 1	
	NA	0001		ZB187C

3. Generator's Name and Mailing Address: Dave's Pit shop
700 Highway 116, Forestville, Ca.

4. Generator's Phone ( )

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Clearwater group Inc.	NA	510-307-9947
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone

9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Ingfrat 405 Airport Rd. Lake Vista, Ca.	NA	530-753-1829

11. Waste Shipping Name and Description	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous waste Liquid	001	DM	00020	Gal
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Rodney Berry	Rodney Berry	8	18	04

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Rodney Berry	Rodney Berry	8	20	04

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
P. Mchugh	P Mchugh	8	20	04

GENERATOR — TRANSPORTER — FACILITY

ORIGINAL – RETURN TO GENERATOR

Attachment C

CLEARWATER
GROUP
Environmental Services

Ms. Darcy M. Bering, R.E.H.S
Environmental Health Specialist III
Leaking Underground Storage Tank Local Oversight Program
Sonoma County Department of Health Services - Environmental Health Division
1030 Center Drive, Suite A
Santa Rosa, CA 95403-2067

January 18, 2005

Re: **Proposed Well Abandonment Activities**
Dave's Pit Stop, 7001 Highway 116, Forestville CA
SCDHS-EHD Site # 00002400
Clearwater Group Project No. ZB187D

Dear Ms. Bering,

Clearwater Group (Clearwater) on behalf of our client, Dave's Pit Stop, is pleased to present the proposed method of well abandonment for the above-referenced project location for your review, comments and approval.

Clearwater proposes to abandon the three groundwater monitoring wells located at the above-referenced project location by over drilling the well casings. Upon receiving the well abandonment permit from the Sonoma County Department of Environmental Health Services (SCDEH), Clearwater will schedule the drilling activities with Gregg Drilling of Martinez, California, a C-57 licensed driller. Once the drill date has been confirmed, Clearwater will then mark the location and notify Underground Service Alert (USA) within 72 hours of the proposed drill date.

Soil cuttings and rinsate water will be contained onsite within DOT approved 55-gallon drums pending disposal. After each monitoring well is destroyed, the soil boring will then be filled with grout until it is flush with the surrounding asphalt surface. Upon completion of the drilling activities, a composite soil sample will be collected from the 55-gallon drums and submitted to Kiff Analytical, LLC of Davis, California, a California Department of Health Services certified laboratory for analysis of total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, total xylenes (BTEX) and five fuel

oxygenates; methyl tertiary butyl ether (MTBE), diisopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), and tertiary butyl alcohol (TBA) by EPA Method 8260B. The soil sample will also be analyzed for concentrations of CAM 17 metals. Upon receipt of the analytical results disposal of the well abandonment derived wastes will be scheduled with a SCDEHS approved facility.

After the well abandonment derived wastes are properly disposed of and a certificate of disposal is received, Clearwater will prepare a site closure report documenting the well abandonment activities, waste disposal and the submittal of the Department of Water Resources Well Completion Reports (DWR 188 form). The closure report will be reviewed and certified by a California Registered Geologist prior to its submittal to the SCDEHS.

If there are any questions regarding the proposed well abandonment activities, please do not hesitate to contact my office at 510-307-9943 ext 236, or via cell phone at 510-590-1096.

Sincerely,
Clearwater Group

Jessica Chiaro
Project Scientist

Cc: Dave's Pit Stop, P.O. Box 7010, Santa Rosa, CA 95407

CLEARWATER GROUP
SITE SAFETY PLAN

CLIENT: Dave Zedrick CLIENT No: 505

SITE: Dave's Pit Stop Job No: ZB187D

ADDRESS: 7001 Highway 116, Forestville, CA

CLIENT CONTACT No: (707) 528-3673 Fax No. 707-546-6650

ON-SITE MANAGER: Eloise Wagner CONTACT No: 707-887-7665

SCOPE OF WORK (Check all that apply):

Soil Stockpile Sampling (S)..... ☐

Monitoring Well Sampling.(M)..... ☐

Monitoring Well Installation (MW) ..... ☐

System Operation and Maintenance (O&M)..... ☐

Monitoring Well Destruction (MWD)..... ☒

FIELD DATE(S):	TYPE OF WORK					SSO
_____	S	M	MW	O&M	MWD	_____
_____	S	M	MW	O&M	MWD	_____
_____	S	M	MW	O&M	MWD	_____
_____	S	M	MW	O&M	MWD	_____
_____	S	M	MW	O&M	MWD	_____
_____	S	M	MW	O&M	MWD	_____
_____	S	M	MW	O&M	MWD	_____
_____	S	M	MW	O&M	MWD	_____

TABLE OF CONTENTS

1.0 PURPOSE

This Site Safety Plan (SSP) establishes the basic safety guidelines and requirements for the above scope(s) of work at the above site (see Site Location Map - Figure 1). This SSP addresses the expected potential hazards that may be encountered during this project.

The provisions set-forth in this SSP will apply to Clearwater Group, Inc. (Clearwater) employees and any subcontractors working for Clearwater at the job site. All personnel working for Clearwater, including subcontractors, at the job site must read this SSP, and sign the attached Compliance Agreement, Section 10.0 on Page 9, before entering the work area.

2.0 FACILITY BACKGROUND

2.1 Site Layout and History (Site vicinity is shown on Fig. 1, site plan on Fig. 2)

Previous Site Operations: **Tank Removal** From: **4/21/99** To: **5/20/99**
Well Install From: **11/22/00** To: **11/22/00**
_____ From:_____ To:

Is site currently active? [**Yes**] No
Work surface is: [**Asphalt**] Concrete Gravel/Dirt
ASTs/[**USTs**] present?: [**Yes**] No Location: **South east corner of property, directly west of MW-3**

Number of USTs removed: **4** Location: **South of Store** Date removed: **4/21 to 5/20 1999**

2.2 Soil Contamination

Maximum benzene concentration in soil: **.26 mg/kg**
Maximum TPHg concentration in soil: **<1.0 mg/kg** Location: **N/A**

2.3 Ground Water Wells and Contamination

Number of monitoring wells at the site: **3**
Maximum dissolved benzene concentration to date: **0.55 ppm (MW-3)**

2.4 Remediation

Previous remedial system operation: **Not Applicable** From_____ To:
_____ From_____ To:

Active remediation: **Not Applicable**
Number of SVE wells: **0** AS wells: **0** GWE wells: **0**

Other (trenches, sumps,..): UST Fuel Line

Remediation equipment on site: Not Applicable

3.0 JOB HAZARD ANALYSIS

3.1 Chemical Hazards

The hazardous chemicals which may be encountered at the site are listed on Table 1. A summary of relevant chemical, physical and toxicological properties for each chemical hazard are summarized in Appendix A.

Field personnel shall be cautioned to inform each other of non-visual effects of the presence of toxins on the attached table. The controls to limit potential for exposure to chemical hazards are addressed below:

- **Inhalation** of contaminants will be controlled by continuous air monitoring of breathing zones with the use of a photo ionization detector (PID). The use of a half face respirator equiped with organic vapor cartridges is required if/when PID level exceeds 300ppm

- **Ingestion** of contaminants will be controlled by prohibiting eating, drinking, smoking, and chewing gum/tobacco or other foreign body while working. In addition, workers shall wash their hands and face before engaging in any of the above activities.

- **Absorption** of contaminants will be controlled by wearing protective clothing such as shirts with long sleeves, long legged trousers, gloves, steel-toed boots, hard hats, and tyvek coveralls when deemed necessary.

- **Injection** of contaminants will be controlled by wearing work gloves and when required tyvek coveralls in the work area.

3.2 Physical Hazards

The potential physical hazards expected at the job site are addressed below:

- The potential for physical injury exists from the **operation of moving equipment** such as drill rigs, forklifts and trucks. Moving equipment may cause injury by crushing, falling objects, hurtling objects, penetration of subsurface utilities or structures. Use of steel toe boots, hard hats, and safety glasses will be required when in the work area. The work area perimeter shall be defined with the use of cones/barricades and caution tape/work area signage. Work area perimeters shall contain the work site with a minimum of a 10-foot radius surrounding work area. Backup alarms are required on all trucks and forklifts. No person other than the equipment operator shall approach within 5-feet of equipment at any time.

- The potential for physical injury exists from **public traffic** on the site. The project location **is** open to public vehicles. Work **will** be performed in the public right-of-way. However, the public will be prohibited from entering designated work areas by establishing and monitoring the work area perimeter.

- The potential for **burns from hot surfaces** may exist from the operation of an internal combustion engine and/or an air compressor. Compressed air piping is hot. All hot surfaces shall be allowed to cool and/or be handled with thick cloth work gloves.

- The potential for **noise hazards** exist at the site from the operation of **drilling equipment**.
  It is not expected that noise levels will exceed the acceptable CAL-OSHA permissible exposure level of **90 dB**. However, workers should be aware of the presence of these hazards and take steps to avoid them. Ear / noise protection, though not required, shall be available to all personnel within the job site in the event noise levels exceed worker comfort or protection levels.

- Personnel should be cognizant of the fact that when protective equipment such as respirators, gloves, and/or protective clothing are worn, **visibility**, hearing, and manual dexterity are impaired.

3.3 Heat Stress:

The potential for heat stress is present if the temperature exceeds **80°F**. Some signs and symptoms of heat stress are presented below:

- Heat rash may result from continuous exposure to heat or humid air.

- Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include: muscle spasms, heavy sweating, dizziness, nausea and fainting.

- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include: pale, cool, moist skin; heavy sweating; dizziness; nausea and fainting.

- Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occurs. Competent medical help must be obtained. Signs and symptoms are: red, hot, unusually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse and coma.

3.3.1 Heat Stress Monitoring

All personnel (including subcontractors) working for Clearwater at the job site shall be monitored for heat stress. Because workers at the job site are expected to be wearing permeable clothing (e.g. standard cotton or synthetic work clothes), monitoring for heat stress will consist of personnel constantly observing each other for any of the heat stress symptoms discussed above. The Site Safety Officer shall mandate work slowdowns as needed.

3.4 Fire Hazards:
The potential for fire or explosion exists whenever flammable liquids or vapors are present above lower explosions limit (LEL) concentrations and sufficient oxygen is present to support combustion. These potential fire hazards are addressed below:

- The potential exists for petroleum hydrocarbon vapors to exceed LEL concentrations within the wells. However, well-gas generally does not contain sufficient oxygen to support combustion.

- In addition to the above, an operative fire extinguisher will be provided by Clearwater at the site. All personnel shall be familiar with its location and use.

3.5 Electrical Hazards:
No electrical enclosures will be opened unless power is disconnected. Power will be verified disconnected with a meter prior to working on any circuits.

3.6 Biological Hazards
The potential for biological hazards such as insect and/or animal bites and exposure to poisonous plants are more prevalent in rural areas. Personnel shall use caution when entering areas that may shelter indiginous creatures such as snakes, spiders, ticks and/or rodents. Proper precautions shall be taken against exposure to poisonous plants like poison oak by wearing protective clothing and washing exposed skin areas with Tecnu™.

4.0 PERSONAL PROTECTIVE EQUIPMENT

Level D personal protection equipment is expected to be the highest protective level required to complete the field activities for this project. Modified Level C protection may also be required at the discretion of the Site Safety Officer. The following lists summarize the personal protective equipment that shall be available to all field personnel working in the work area:

Level D Protection (shall be worn at all times)

- Boots, steel toe
- Safety glasses, chemical splash goggles, or face shield
- Hard hat
- Work gloves required _____

- Long leg trousers
- Long sleeves required _**optional**_____

Modified Level C Protection (available at all times.)

- Half-face air purifying respirator with organic vapor cartridges to be used should ambient organic vapor concentrations exceed 300 ppm as indicated with the use of a PID.
- Hearing protection

5.0 TRAINING REQUIREMENTS

All site personnel will be required to have completed the 40 hours of basic OSHA-SARA training for personnel assigned to hazardous waste sites in compliance with OSHA Standard 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, and all are required to participate in the annual OSHA-SARA 8-hour refresher courses.

6.0 MEDICAL SURVEILLANCE PROGRAM

Clearwater personnel engaged in field operations shall be participants in their company Medical Surveillance program, and must be cleared by the examining physician(s) to wear respiratory protection devices and protective clothing for working with hazardous materials. Respiratory fit testing for Clearwater personnel shall be completed every six months. Respirators shall be supplied to Clearwater employees as needed. The applicable requirements under California Administrative Code (CAC) Title 8, Section 5216, which is available at the Clearwater office for review, shall be observed.

7.0. EMERGENCY RESPONSE PLAN

In the event of an accident resulting in physical injury, first aid will be administered and the most able immediately available person to will transport the injured worker
Palm Drive Hospital approximately 7.9 miles from project location

In the event of a fire or explosion, local fire or response agencies will be called by dialing 9-1-1. The Project Manager shall also be notified. The Project Manager in turn will notify the Clearwater CEO.

Emergency Telephone Numbers:

Fire and Police..... **911**

Hospital ..... **(707) 823-8511**

Directions to Hospital: See Figure 3

Leave the project location traveling East on Highway 116, travel 7.9 miles, arriving at 501 Petaluma Ave, Sebastopol, CA

A fire extinguisher will be located within company vehicle while on-site during all installation, testing and servicing activities.

Additional Contingency Telephone Numbers:

CLEARWATER.....Main Office Jeannie Hudson.....**(510) 307-9943 ext 221**

Project Manager...Jessica Chiaro (cell).....(510) 590-1096

Olivia Jacobs...(cell).....(510) 590-1099

All cases where an accident has occurred will require filling out an incident / accident report and submitting immediately up to within 48 hours of the accident. Incident /accident forms are maintained in each company vehicle.

8.0 KEY SAFETY PERSONNEL AND RESPONSIBILITIES

All personnel working for Clearwater at the job site are responsible for project safety. Specific individual responsibilities are listed below:

Project Manager: Jessica Chiaro

The Project Manager is responsible for preparation of this SSP. He/she has the authority to provide for the auditing of compliance with the provisions of this SSP, suspend or modify work practices, and to report to Olivia Jacobs CEO any individuals whose conduct does not meet the provisions presented in this SSP. The Project Manager can be reached at (510) 590-1096.

Site Safety Officer: Eric Austin	**Date:** 3-2-05
Site Safety Officer: _____	**Date:** _____
Site Safety Officer: _____	**Date:** _____
Site Safety Officer: _____	**Date:** _____
Site Safety Officer: _____	**Date:** _____
Site Safety Officer: _____	**Date:** _____

The Site Safety Officer (SSO) is responsible for the dissemination of the information contained in this SSP to all Clearwater personnel working at the job site, and to the responsible representative(s) of each subcontractor firm working for CGI at the job site.

The SSO is responsible for ensuring the following items are adequately addressed and documenting when these items have been addressed:

- Inspection of tools, drilling equipment and safety equipment
- Safety supplies & equipment inventory
- Site-specific training/hazard communication
- Accident/incident reporting
- Decontamination/contamination reduction procedures

The Site Safety Officer shall be responsible to take necessary steps to ensure that employees are protected from physical hazards, which could include;

- Falling objects such as tools or equipment
- Fall from elevations
- Tripping over hoses, pipes, tools, or equipment
- Slipping on wet or oily surfaces
- Insufficient or faulty protective equipment
- Insufficient or faulty operations, equipment, or tools
- Noise
- Mobile objects such as spinning augers that may have become dislodged.

The SSO has the authority to suspend work anytime he/she determines the safety provisions set-forth in this SSP are inadequate to ensure worker safety. **The SSO or Project Manager must be present during all phases of the site work.**

9.0 DOCUMENTATION

All personnel shall sign the compliance agreement (Section 10.0).

A daily log, completed by the Site Safety Officer in his/her field notebook, shall provide daily documentation. The Site Safety Officer shall record the names of all personnel working for **Gregg Drilling** and any site visitor(s). (S) he shall also record accidents, illness and other safety related matters. In the case of an accident, or injury, during field operations, (s)he will prepare and submit an Incident/Accident Report.

SSP prepared by: Jessica Chiaro Date: **1/24/05**

SSP Approved by: Jessica Jacobs Jessica Jacobs Date: 1/24/05

10.0 COMPLIANCE AGREEMENT

I have read and understand the Site Safety Plan.

I will comply with the minimum safety requirements set forth in this Site Safety Plan. I agree to notify the responsible employee of Clearwater should any unsafe acts be witnessed by me while I am on this site.

Print Name	Company	Signature	Date
Joe Velasco	G.D.T		3/2/05
Sean Baker	GDT		3/2/05
Jeannette Popp	GG		3/2/05

Yahoo! Driving Directions

Starting from: A 7001 Highway 116, Forestville, CA 95436

Arriving at: B Palm Drive Hospital 501 Petaluma Ave, Sebastopol, CA 95472 (707) 823-8511

Distance: 7.9 miles **Approximate Travel Time:** 17 mins

Your Directions

1.	Starting at on **CA-116** - go **7.9** mi
2.	Arrive at Palm Drive Hospital

When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.

Your Full Route

Your Destination

Address:
Palm Drive Hospital 501 Petaluma Ave
Sebastopol, CA 95472

MSDS
Definition of terms

Material Safety Data Sheet for Gasoline

1. Chemical Product

MSDS Number: U4080

MSDS Date: 01-1-99

Product Name: Gasoline

24 Hour Emergency Phone: (210) 979-8346
Transportation Emergencies: Call Chemtrec at 1-800-424-9300
MSDS Assistance: (210) 592-4593

Distributors Name and Address:

T.W. Brown Oil Co., Inc.
1857 Knoll Drive
Ventura, California 93003

Chemical Name: Gasoline **Cas Number:** 8006-61-9

Synonyms/Common Names: This Material Safety Data Sheet applies to the following product descriptions for Hazard Communication purposes only. Technical specifications vary greatly depending on the product, and are not reflected in this document. Consult specification sheets for technical information.

Unleaded Ggasoline Blendstocks/Subgrades- all types, grades, octanes, and vapor pressures.
California Air Resources Board (Carb) Gasoline- all grades, octanes, vapor pressures, and oxygenate blends.
Reformulated Gasoline (RFG)-all grades, octanes, vapor pressures, and oxygenate blends.
California Reformulated Gasoline (CARFG)-all grades, octanes, vapor pressures, and oxygenate blends.
Conventional Gasoline-all grades, octanes, vapor pressures, and oxygenate blends.

2. Composition, Information On Ingredients

Product Use: This product is intended for use as a fuel in engines or for use in engineered processes. Use in other applicatiions may result in higher exposures and require additional controls, such as local exhaust ventilation and personal protective equipment.

Description: Reformulated gasoline is a complex mixture of hydrocarbons from a variety of chemical processes blended to meet standardized product specifications. Composition varies greatly and includes C? to C? hydrocarbons with a boiling range of about 80-473 degrees F. The following is a non-exhaustive list of common components, typical percentage ranges in product, and occupational exposure limits for each. Functional and performance additives may also be present at concentrations below reporting thresholds.

Component or Material Name	%	CAS Number	ACGIH Limits TLV -- STEL -- Units	OSHA Exposure Limits PEL -- STEL -- C/P -- Units
Gasoline	90-100	Mixture	300--500--ppm	NA--NA--NA -- ----
Butane	<9	106-97-8	800--NA--ppm	NA--NA--NA -- ----
Pentane	<6	109-66-0	600--750--ppm	1000--NA--NA--ppm
n-Hexane	<4	110-54-3	50--NA--ppm	500--NA--NA--ppm
Hexan(other isomers)	<8	NA	500--1,000--ppm	NA--NA--NA-- ----

Benzene	1.2 - 4.9	7-4-2	0.5--2.5--ppm	1--5--NA--ppm
N-heptane	<2	14-82-5	400--500--ppm	500--NA--NA--ppm
Ethylbenzene	<2	100-41-4	100--125--ppm	100--NA--NA--ppm
Xylene (o,m,p, - isomers)	<11	1330-20-7	100--150--ppm	100--NA--NA--ppm
Cyclohexane	<2	110-82-7	300--NA--ppm	300--NA--NA--ppm
Trimethylbenzene	<4	25551-13-7	25--NA--ppm	NA-NA-NA- ----
Methyl-t-butyl ether (MTBE)	0-15	1634-04-4	40--NA--ppm	NA-NA-NA- ----
Toluene	<12	108-88-3	50-NA-ppm	200-300/500-NA-ppm
Ethyl-t-butyl ether (ETBE)	0-7	637-92-3	N/A-NA-ppm	NA-NA-NA- ----
t-amyl-methyl-ether	0-5	994-05-8	N/A-NA-ppm	NA-NA-NA- ----
Ethanol	0-11	64-17-5	1,000-NA-ppm	1,000-NA-NA-ppm

C=Ceiling concentration not to be exceeded at any tume. P= Peak concentration for a single 10 minute exposure per day.

3. Hazards Identification

Health Hazard Data:

1. The major effect of exposure to this product is central nervous system depression and polyneuropathy.

2. Studies have shown that repeated exposure of laboratory animals to high concentrations of whole gasoline vapors at 67,262 and 2056 ppm has caused kidney damage and cancer of the kidney in rats and liver cancer in mice.

3. LARC has listed gasoline as possibly carcinogenic (2B) to humans with limited evidence in humans in the absence of sufficient evidence in experimental animals. NIOSH lists gasoline as a carcinogen with no further classification.

4. N-heptane and cyclohexane cause narcosis and irritation of eyes and mucous membranes. Cyclohexane has been reported to cause liver and kidney changes in rabbits. N-heptane has been reported to cause polyneuritis following prolonged exposure.

5. ACGIH lists benzene a human carcinogen with and assigned TLV of 0.5 ppm 8 hour TWA and a STEL of 2.5 ppm; IARC, NTP $ OSHA show sufficient evidence for classifying Benzene as a human carcinogen, see 29 CGR 1910.1028 for current PEL of 1 ppm and specific actions to take. Studies have shown that benzene can induce leukemia at concentrations as low as 1 ppm. Significant elevations of chromosomal aberrations have been corroborated among workers exposed to levels at mean concentrations less than 10 ppm. Based on risk assessment studies by Rinsky, an individual inhaling 1 ppm of benzene for 40 years, the odds of benzene-induced leukemic death were 1.7 times higher than those of unexposed workers.

6. MTBE is a mild irritant to the eye with an LC50 of 85 mg/m3 on 4 hr. exposure and an LD50 ~4 ml/Kg (RATS). An increase in anesthesia with increasing concentration (250,500 & 1000 ppm) was observed during a 90 day Test exposure. ACGIH has listed MTBE as an animal carcinogen (A3) based on tests in experimental animals at relatively high dose levels, by routes of administration, at sites, of histologic types, or by mechanisms not considered relevant to worker exposure. Available evidence suggests that MTBE is not likely to cause cancer in humans except under uncommon or unlikely routes of levels of exposure.

7. Trimethylbenzene (pseudocumene (1,2,4,) & mesitylene (1,2,5,)) has a PEL and TLV of 25 ppm 8 hr. TWA; the isomers may cause nervousness, tension, and anxiety and asthmatic bronchitis.

8. n-Hexane has been shown to cause polyneuropathy (peripheral nerve damage) after repeated and prolonged exposure, other hexanes show narcotic effects at 1000 ppm and are not metabolized like n-hexane.

9. Toluene can cause impairment of coordination and momentary loss of memory (200-500 ppm); Palpations, extreme weakness and pronounced loss of coordination (500-1500). The 100 ppm 8 hr. TWA and the 150 ppm STEL provides adequate protection.

10. The toxicological effects of ETBE and TAME have not been thoroughly investigated. ETBE and TAME are expected to be an inhalation hazard and a severe eye and moderate skin irritant.

Hazards of Combustion Products: Carbon monoxide and carbon dioxide can be found in the combustion products of this product and other forms of hydrocarbon combustion. Carbon monoxide in moderate concentrations can cause symptoms of headache, nausea, vomiting, increased cardiac output, and confusion. Exposure to higher concentrations of carbon monoxide can cause loss of consciousness, heart damage, brain damage, and/or death. Exposure to high concentrations of carbon dioxide can cause simple asphyxiation by displacing available oxygen. Combustion of this and other similar materials should only be carried out in well ventilated areas.

< Home | Next >

Material Safety Data Sheet Gasoline

Medical Condition Generally Aggravated By Exposure: Medical conditions which have the same symptoms and effects as those outlined under the health hazard information section can be aggraved by exposure to this product.

Medical Limitation: N/A

Routes Of Exposure

Inhalation: Irritation of the upper respiratory tract with central nervous system stimulation possible followed by depression, dizziness, headache, incoordination, anaesthesia, coma, and respiratory arrest.The threshold for immediate mild toxic effects is reported to be 900-1000 ppm.

Skin Contact: Defatting of the skin may occur with continued and prolonged contact. Irritation and burning sensation may occur on exposure to the liquid or high vapor phase exposure..

Skin Absorption: Bezene is absorbed directly through intact skin.

Eye Contact: Contact with liquid will cause severe burning sensation with temporary irritation and swelling of lids.Vapor in concentrations of 160-270 ppm in air will irritate the eye.

Ingestion: Irritation of the mucous membranes of throat, esophagus and stomach which may result in nausea and vomiting; depression may occur, if absorbed (see inhalation symptoms above). If aspirated, chemical pneumonitis may occur with potentially fatal results.

Carcinogenicity Statement: Gasoline mixtures are not listed as carcinogenic by NTP, OSHA, and ACGIH. Gasoline mixtures are listed as a possible carcinogen by IARC (2B) and NIOSH. Benzene is listed as a confirmed human carcinogen by IARC, NTP, OSHA, NIOSH, and ACGIH.

4. First Aid Measures

Eyes: Immediately flush eyes with large amount of water for at least 15 minutes holding lids apart to ensure flushing of the entire eye surface. **SEEK IMMEDIATE MEDICAL ATTENTION.**

Skin: Wash contaminated areas with plenty of soap and water. A soothing ointment may be applied to irritated skin after thoroughly cleansing. Remove contaminated clothing and footwear. **SEEK IMMEDIATE MEDICAL ATTENTION.**

Inhalation: Get person out of contaminated area to fresh air. If breathing has stopped resuscitate and administer oxygen if readily available. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

Ingestion: Never give anything by mouth to an unconscious person. If swallowed, do not induce vomiting. If vomiting occurs spontaneously, keep airway clear. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

Note to Physician: Gastric lavage only if large quantity has been ingested. Guard aagainst aspiration into lungs which may result in chemical pneumonitis. Irregular heart beat may occur, use of adrenaline is not advised. Treat symptomatically.

< Back | Next >

MSDS
Definition of terms

Material Safety Data Sheet for Gasoline

5. Fire and Explosion Data

Flash Point: <-40 degrees (Estimated)
Autoignition Temperature: 480 degrees F
Flammable Limits In Air: UEL: 7.1% - LEL: 1.3%

Extinguishing Media: Use dry chemical, carbon dioxide, foam or water spray. Water may be ineffective in fighting fires of liquids with low flash points, but water should be used to keep fire exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect persons attempting to stop a leak.

Special Fire Fighting Procedures: Pressure-demand, self contained, breathing apparatus should be provided for fire fighters engaged in activities in the hot zone.

Unusual Fire And Explosion Hazard: Vapors may travel extended distances and flashback with explosive force if ignition sources are present. Clothing, rags, or similar organic material contaminated with the product and stored in a closed space may undergo spontaneous combustion.

6. Accidental Release Measures

Eliminate all sources of ignition (flames, sparks, heat, electrical equipment, and engines) and remove non-response personnel from the spill area. Contain liquids with earthen dikes or petroleum absorbent materials. Prevent discharges to streams or sewer systems. Control vapors from large spills with fire-fighting foam. Remove liquid with explosion-proof equipment and grounded and bonded suction hoses. Report spills or releases as required to the appropriate local, state and federal regulatory agencies.

7. Handling and Storage Information

This product is intended for use as engine fuel only. Protect containers against physical damage. Outside or detached storage or underground storage is preferred. Separate from oxidizing materials. Store in cool, well ventilated area of non-combustible construction away from possible sources of ignition (flames, sparks, heat, electrical equipment, and engines). Transfer with explosion-proof equipment and grounded and bonded transfer lines. Consult NFPA 30 and OSHA 1910.106 for specific requirements.

8. Exposure Controls/Personal Protection

Ventilation Requirements: Work in well ventilated areas using good engineering practices to process, transfer and store. Explosion-proof equipment is required. Vapor recovery systems may be required in some areas. Mechanical ventilation is required for confined spaces such as tanks and vessels.

Specific Personal Protective Equipment

Respiratory: Respiratory protection is not normally not required when transferring material in well ventilated areas. When transferring in enclosed areas or at high temperatures, vapors concentrations may warrant use of respiratory equipment. Use NIOSH approved respiratory protection following manufacture's recommendations. Positive pressure supplied air respiratory protection is required for IDLH areas; follow ANSI Z88.2

Eye: Face shield and goggles or chemical goggles should be worn where splashing is likely.

Gloves: Impermeable protective gloves such as nitrile gloves should be worn during routine handling of this product.

Other Clothing and Equipment: Standard work clothing is sufficient with good practices. Clothing contaminated with this product should be removed and laundered before reuse. Items which can not be laundered should be discarded. Allow contaminated items to air dry or hang in a well ventilated area. Spontaneous combustion or fire may result from contaminated materials being placed together before drying. Shower and eyewash facilities should be accessible.

Special Work Practices:

(1) Wear impervious gloves such as nitrile gloves when "dip-sticking storage tanks"
(2) Work up-wind of small spills during clean-up
(3) DO NOT USE THIS PRODUCT as a solvent for cleaning equipment or skin
(4) Store small quantities ONLY in "SAFETY CANS" approved for gasoline storage and labeled "GASOLINE"
(5) Allow contaminated rags to completely dry in a well ventilated area before storage

Exposure Monitoring

Biological: No applicable procedure, breath analysis for hydrocarbons has been suggested. Below are biological monitoring procedures for certain ingredients:

ANALYTE	DETERMINANT	SAMPLING TIME	BIOLOGICAL EXPOSURE INDEX (BEI)
Benzene	S-phenylmercapturic acid in urine	End of shift	25 ug/g creatinine
Toluene	Hippuric acid in urine	End of shift	1.6 g/g creatinine
	Toluene in venous blood	Prior to last shift of week	0.05 mg/L
n-Hexane	2,5-Hexanedione in urine	End of shift	5 mg/g creatinine
	n-Heane in exhaled air		Semiquantitative
Ehylbenzene	Mandelic acid in urine	End of last shift of week	1.5 g/g creatinine
	Ehtylbenzene in exhaled air		Semiquantitative
Xylene	Methylhippuric acid in urine	End of shift	1.5 g/g creatinine

Personal/Area: Both active and passive air monitoring utilizing activated charcoal absorption followed by gas chromatography are recommended. A moleculas weight of 72.5 has been suggested as the average value to convert total hydrocarbon results from milligrams per cubic meter to ppm. Direct reading indicating tubes are available to evaluate short term exposure.

9. Physical and Chemical Properties

Appearance and Odor: Clear, pink, or blue tinted liquid with characteristic, pungent odor: odor threshold is 0.25 ppm and is not an index of exposure.
Boiling Range @ 760 mm Hg: 80-437 degrees F
Melting Point: NA
Vapor Density (Air=1): 3.0-4.0
Evaporation Rate (BuAc=1): N/A
Specific Gravity (H2O=1): 0.68-0.76 @60 degrees F
Bulk Density At 60 degrees F: 5.7-6.3 lbs./gal.
Solubility in H2O % by WT.: Trace
Reid Vapor Pressure: 6.8-15 PSI
% Volatiles By Vol.: ~100
API Gravity: 50-75
pH: NA
Ron: 89-98

< Back | Next >

MSDS
Definition of terms

Material Safety Data Sheet for Gasoline

10. Stability and Reactivity Information

Conditions Contributing to Instability: Under normal conditions, the material is stable.

Incompatibility: Avoid contact with oxidizers and sources of ignition.

Hazardous Decomposition Products: Carbon dioxide, carbon monoxide.

Hazardous Polymerization: None

11. Toxicological Information

For detailed information, contact MSDS Assistance at (210) 592-4593

12. Ecological Information

For detailed information, contact MSDS Assistance at (210) 592-4593

13. Disposal Considerations

Shipment, storage, disposal, and cleanup actions of waste materials are regulated under local, state and federal rules. Contact the appropriate agencies if uncertain of applicability. Waste product and contaminated material having a flash point below 140 degrees F is considered a hazardous waste. DOT Hazardous Waste Number D001 applies. Consult 40 CFR 262 for EPA disposal requirements.

14. Transport Information

DOT Proper Shipping Name	**Gasoline**
DOT Hazard Class*	3
DOT Packing Group (PG)	II
I.D. Number	UN 1203
Required Labeling	Flammable Liquid

15. Regulatory Information

TSCA (Toxic Substance Control Act) Inventory

Gasoline is listed in the TSCA inventory.

SARA (Superfund Amendments and Reauthorization Act) TITLE III

This product is reportable under SARA Title III, Sections 311 & 312 as a hazardous substance.

Hazard Categories Applicable under 40 DFR 370.2 (SARA Section 311):

Acute Health	Chronic Health	Pressure	Fire	Reactive

Yes	Yes	No	Yes	No

Components Listed under 40 CFR 372.2 (SARA Section 311):

This product does not contain chemicals identified as toxic by EPA under CFR part 372 and is not subject to the reporting requirements of this section. The chemicals contained are:

Component	CAS Number	Percentage
n-Hexane	110-54-31	<6
Cyclohexane	142-82-5	<2
Methyl-t-buyl ether	1634-04-4	<15
Benzene	71-43-2	<3.5
Toluene	100-88-3	<13
Ethylbenzene	100-41-4	<2
o-Xylene	95-47-6	<4
m-Xylene	108-38-3	<4
p-Xylene	106-42-3	<4
Xylene (Mixed Isomers)	1330-20-7	Total <12
1,2,4-Trimethylbezxene	95-63-6	<5

State Regulations:

California Proposition 65: This product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.These chemicals are: Benzene (cancer), toluene (reproductive dffects).

16. Other Information

NFPA (National Fire Protection Association) Hazard Ratings Codes*

Fire	Health	Reactivity	Other
3	1	0	Blank

*Based on Standard System for the Identification of the Fire Hazards of Materials, NFPA No. 704 M

This material safety data sheet was prepared by T. W. Brown Oil Co., Inc. in accordance with 29 CFR 1910.1200. All information, recommendations and suggestions appearing herein concerning this product are based upon tests and data believed to be reliable, however, it is the user's responsibility to determine the safety, toxicity and suitability for his own use of the product described herein. Since the actual use by others is beyond our control, no guarantee expressed or implied is made by T. W. Brown Oil Co., Inc. as to the effects of such use, the results to be obtained or the safety and toxicity of the product nor does T. W. Brown Oil Co., Inc. assume any liability arising out of use by others of the product referred to herein. Nor is the information herein to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

MSDS

Definitions of Material Safety Data Sheet Terminology

Government Agencies and Private Associations

ACGIH- American Conference of Governmental Industrial hygienists, (private association)

DOT- United States Department of Transportation

EPA- United States Environmental Protection Agency

IARC- International Agency for Research on Cancer, (private association)

NFPA- National Fire Protection Association, (private association)

MSHA- Mine Safety and Health Administration, U.S. Department of Labor

NIOSH- National Institute of Occupational Safety and Health, U.S. Department of Health and Human Services

NTP- National Toxicology Program, (private association)
OSHA- Occupational Safety and Health Administration, U.S. Department of Labor

Hazard and Exposure Information

Acute Hazard- An adverse health effect which occurs rapidly as a result of short term exposure.

CAS#- American Chemical Societies Chemical Abstract service registry number which identifies the product and/or ingredients.

Ceiling- The concentration that should not be exceeded during any part of the working exposure

Chronic Hazard- An adverse health effect which generally occurs as a result of long term exposure or short term exposure with delayed health effects and is of long duration

Fire Hazard- A material that poses a physical hazard by being flammable, combustible, phyrophoric or an oxidizer as defined by 29 CFR 1910.1200

Hazard Class- DOT hazard classification

IDLH- Immediately Dangerous to Life and Health, the airborne concentration below which a person can escape without respiratory protection and exposure up to 30 minutes, and not suffer debilitation or irreversible health effects. Established by NIOSH.

mg/m3- Milligrams of contaminant per cubic meter of air, a mass to volume ratio

N/A- Not available or no relevant information found

NA- Not applicable

PEL- OSHA permissible exposure limit; an action level of one half this value may be applicable

ppm- Part per million (one volume of vapor or gas in one million volumes of air)

Pressure Hazard- A material that poses a physical hazard due to the potential to become unstable reactive, water reactive or that is an organic peroxide as defined by 29 CFR 1910.1200

STEL- The ACGIH short-term exposure limit, a 15-minute time-weighted average exposure which

should not be exceeded at any time during a workday, even if the 8-hour TWA is less than the TLV

8-hour TWA- The time weighted average concentration for a normal 8-hour workday and a 40-hour workweek, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect.

W- Do Not Add Water- water reactive materials may produce toxic gas, extreme heat, or chemical reaction on contact with water

< Back to Kerosene, Diesel, Gasoline | Home >

Material Safety Data Sheet
tert-Butyl methyl ether, 99%

ACC# 00978

Section 1 - Chemical Product and Company Identification

MSDS Name: tert-Butyl methyl ether, 99%
Catalog Numbers: AC177040000, AC177040010, AC177040025, AC177040250, AC177042500, AC610271000, BP2605-100, E127-4, E127J4, E127RS200, NC9765209
Synonyms: t-Butyl methyl ether; MBE; 2-Methoxy-2-methylpropane; 2-Methyl-2-methoxypropane; MTBE; Methyl t-butyl ether.
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
1634-04-4	tert-Butyl methyl ether	99	216-653-1

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: -28 deg C.
Danger! Extremely flammable liquid and vapor. Vapor may cause flash fire. Causes eye, skin, and respiratory tract irritation. Aspiration hazard if swallowed. Can enter lungs and cause damage. May cause central nervous system depression. May form explosive peroxides.
Target Organs: Kidneys, central nervous system, reproductive system.

Potential Health Effects
Eye: Causes eye irritation.
Skin: Causes skin irritation. A single prolonged skin exposure is not likely to result in the material being absorbed in harmful amounts.
Ingestion: May cause effects similar to those for inhalation exposure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.
Inhalation: Causes respiratory tract irritation. May cause kidney damage. May cause drowsiness, unconsciousness, and central nervous system depression. Vapors may cause dizziness or suffocation.
Chronic: Chronic inhalation may cause effects similar to those of acute inhalation. May cause cancer according to animal studies. Adverse reproductive effects have been reported in animals. MTBE has been reported to induce lymphomas, leukemias, and testicular tumors in rats exposed by the oral route. It has induced liver tumors in mice by the inhalation route, while kidney tumors occurred in rats.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid.
Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.
Ingestion: Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Combustion generates toxic fumes. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. May form explosive peroxides. Extremely flammable liquid and vapor. Vapor may cause flash fire. This liquid floats on water and may travel to a source of ignition and spread fire.
Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Water may be ineffective. Do NOT use straight streams of water.
Flash Point: -28 deg C (-18.40 deg F)
Autoignition Temperature: 435 deg C (815.00 deg F)
Explosion Limits, Lower:1.6%
Upper: 8.4%
NFPA Rating: (estimated) Health: 2; Flammability: 3; Instability: 1

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid ingestion and inhalation. If peroxide formation is suspected, do not open or move container. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame. Do not allow to evaporate to near dryness.
Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. In the presence of atmospheric oxygen, ethers generally form unstable peroxides, but no peroxides were detected in unstabilized MTBE after storage for 52 months. MTBE has a significantly decreased formation of peroxides compared with other ethers.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
tert-Butyl methyl ether	50 ppm TWA	none listed	none listed

OSHA Vacated PELs: tert-Butyl methyl ether: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure. Chemical-resistant nitrile rubber gloves should be worn during routine handling. Disposable nitrile gloves may be suggested for intermittent use. PVC, Neoprene, Viton, Butyl or natural rubber are NOT recommended.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: hydrocarbon-like - unpleasant odor

pH: Not available.

Vapor Pressure: 249 mm Hg @ 25 deg C

Vapor Density: 0.2 (air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 55.2 deg C

Freezing/Melting Point:-109 deg C

Decomposition Temperature: Not available.

Solubility: 4.8g/100g water

Specific Gravity/Density:0.74 (water=1)

Molecular Formula:C5H12O

Molecular Weight:88.15

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Under normal storage conditions, peroxidizable compounds can form and accumulate peroxides which may explode when subjected to heat or shock. This material is most hazardous when peroxide levels are concentrated by distillation or evaporation.

Conditions to Avoid: Ignition sources, excess heat, prolonged exposure to air.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, formic acid, butyl formate, methyl radicals, acetone.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 1634-04-4: KN5250000
LD50/LC50:
CAS# 1634-04-4:
Inhalation, mouse: LC50 = 141 gm/m3/15M;
Inhalation, mouse: LC50 = 28000 mg/m3/2H;
Inhalation, rat: LC50 = 23576 ppm/4H;
Inhalation, rat: LC50 = 41000 mg/m3/4H;
Oral, mouse: LD50 = 5960 uL/kg;
Oral, rat: LD50 = 4 gm/kg;
Carcinogenicity:
CAS# 1634-04-4:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
  Epidemiology: No information available.
  Teratogenicity: No information available.
  Reproductive Effects: TCLo (Inhalation, rat) = 8000 ppm/6H; Effects on Newborn - viability index (e.g., # alive at day 4 per # born alive)TCLo (Inhalation, mouse) = 4000 ppm/6H; Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus); Developmental Abnormalities - musculoskeletal system.
  Neurotoxicity: No information available.
  Mutagenicity: No information available.
  Other Studies: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: LC50 = 110 mg/L; 96 Hr.; UnspecifiedFish: Fathead Minnow: LC50 = 706 mg/L; 30 days old; Flow-through; 24-26 degreesBacteria: Phytobacterium phosphoreum: EC50 = 11.4-55 mg/L; 5,15,30 minutes; Microtox test; 15 degrees C No data available.
Environmental: Not biodegradable.
Physical: No information available.
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	METHYL TERT-BUTYL ETHER	METHYL TERT-BUTYL ETHER
Hazard Class:	3	3
UN Number:	UN2398	UN2398
Packing Group:	II	II
Additional Info:		FLASHPOINT -28 C

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 1634-04-4 is listed on the TSCA inventory.
Health & Safety Reporting List
CAS# 1634-04-4: Effective 12/15/86, Sunset 12/15/96
Chemical Test Rules
CAS# 1634-04-4: Test for Health Effects
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 1634-04-4: 1000 lb final RQ; 454 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 1634-04-4: acute, chronic, flammable.
Section 313
This material contains tert-Butyl methyl ether (CAS# 1634-04-4, 99%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
Clean Air Act:
CAS# 1634-04-4 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 1634-04-4 can be found on the following state right to know lists: New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives
Hazard Symbols:
XI F
Risk Phrases:
R 11 Highly flammable.
R 19 May form explosive peroxides.
R 38 Irritating to skin.

Safety Phrases:
S 16 Keep away from sources of ignition - No smoking.
S 33 Take precautionary measures against static discharges.
S 37 Wear suitable gloves.
S 9 Keep container in a well-ventilated place.

WGK (Water Danger/Protection)

CAS# 1634-04-4: 1

Canada - DSL/NDSL

CAS# 1634-04-4 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B, B2.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 6/24/1999
Revision #6 Date: 10/21/2004

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

Table 1
WELL CONSTRUCTION DATA
Dave's Pit Stop
7001 Highway 116
Forestville, CA
Clearwater Group Project No.ZB187C

Well I.D.	Date Intstalled	Borehole Diameter (inches)	Depth of Borehole (feet)	Casing Diameter (inches)	Screened Interval (feet)	Filter Pack (feet)	Bentonite Seal (feet)	Cement (feet)
MW-1	11/22/2000	8.0	20.0	2.0	5.0-19.5	4.0-20.0	2.0-4.0	0.75-2.0
MW-2	11/22/2000	8.0	20.0	2.0	5.0-19.5	4.0-20.0	2.0-4.0	0.75-2.0
MW-3	11/22/2000	8.0	20.0	2.0	5.0-19.5	4.0-20.0	2.0-4.0	0.75-2.0

TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELLS
ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
Dave's Pit Stop
7001 Highway 116 at Mirabel Road
Forestville, California
Clearwater Group Project No. ZB187C

WELL ID	Sample Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-1	4-Dec-00	186.82	11.09	175.73	<50	<0.5	<0.5	<0.5	<0.5	**14**	--	--	--	--	<5	<5
	28-Mar-01	186.82	9.05	177.77	<50	<0.5	<0.5	<0.5	<0.5	**50**	--	--	--	--	<5	<5
	15-Jun-01	186.82	8.18	178.64	<50	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<20	<5	<5
	10-Sep-01	186.82	11.05	175.77	<50	<0.5	<0.5	<0.5	<0.5	**9.2**	<5	<5	<5	<20	<5	<5
	11-Dec-01	186.82	8.82	178.00	<50	<0.5	<0.5	<0.5	<0.5	**54**	**1.4**	<0.5	<0.5	<5.0	<0.5	<0.5
	18-Mar-02	186.82	8.84	177.98	<50	<0.5	<0.5	<0.5	<0.5	**33**	**0.67**	<0.5	<0.5	<5.0	<0.5	<0.5
	10-Sep-02	186.82	10.71	176.11	<50	<0.5	<0.5	<0.5	<0.5	**7.6**	**0.54**	<0.5	<0.5	<5.0	--	--
	10-Dec-02	186.82	12.11	174.71	<50	<0.5	<0.5	<0.5	<0.5	**2.6**	<0.5	<0.5	<0.5	<5.0	--	--
	10-Mar-03	186.82	8.61	178.21	<50	<0.5	<0.5	<0.5	<0.5	**59**	**0.99**	<0.5	<0.5	**10**	--	--
	13-Jun-03	186.82	8.81	178.01	<50	<0.5	<0.5	<0.5	<0.5	**15**	<0.5	<0.5	<0.5	<5.0	--	--
	11-Sep-03	186.82	9.84	176.98	<50	<0.5	<0.5	<0.5	<0.5	**9.3**	<0.5	<0.5	<0.5	<5.0	--	--
	4-Dec-03	186.82	11.08	175.74	<50	<0.5	<0.5	<0.5	<0.5	**0.7**	<0.5	<0.5	<0.5	<5.0	--	--
	4-Mar-04	186.82	6.97	179.85	<50	<0.5	<0.5	<0.5	<0.5	**12**	<0.5	<0.5	<0.5	<5.0	--	--
	10-Jun-04	186.82	9.05	177.77	<50	<0.5	<0.5	<0.5	<0.5	**2.0**	<0.5	<0.5	<0.5	<5.0	--	--
MW-2	4-Dec-00	181.93	8.88	173.05	<50	<0.5	<0.5	<0.5	<0.5	<5	--	--	--	--	<5	<5
	28-Mar-01	181.93	7.04	174.89	<50	<0.5	<0.5	<0.5	<0.5	**18**	--	--	--	--	<5	<5
	15-Jun-01	181.93	6.48	175.45	<50	<0.5	<0.5	<0.5	<0.5	**13**	<5	<5	<5	<20	<5	<5
	10-Sep-01	181.93	8.97	172.96	<50	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<20	<5	<5
	11-Dec-01	181.93	6.70	175.23	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5
	18-Mar-02	181.93	6.51	175.42	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5
	10-Sep-02	181.93	8.78	173.15	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--
	10-Dec-02	181.93	9.75	172.18	<50	<0.5	<0.5	<0.5	<0.5	**1.1**	<0.5	<0.5	<0.5	<5.0	--	--
	10-Mar-03	181.93	6.75	175.18	<50	<0.5	<0.5	<0.5	<0.5	**0.58**	<0.5	<0.5	<0.5	<5.0	--	--
	13-Jun-03	181.93	6.94	174.99	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--
	11-Sep-03	181.93	8.03	173.90	<50	<0.5	<0.5	<0.5	<0.5	**0.62**	<0.5	<0.5	<0.5	<5.0	--	--
	4-Dec-03	181.93	8.57	173.36	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--
	4-Mar-04	181.93	5.25	176.68	<50	<0.5	<0.5	<0.5	<0.5	**0.62**	<0.5	<0.5	<0.5	<5.0	--	--
	10-Jun-04	181.93	7.31	174.62	<50	<0.5	<0.5	<0.5	<0.5	**0.50**	<0.5	<0.5	<0.5	<5.0	--	--
MW-3	4-Dec-00	182.47	10.22	172.25	<50	<0.5	<0.5	<0.5	<0.5	**5.3**	--	--	--	--	<5	<5
	28-Mar-01	182.47	8.29	174.18	<50	<0.5	<0.5	<0.5	<0.5	**23**	--	--	--	--	<5	<5
	15-Jun-01	182.47	7.28	175.19	<50	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<20	<5	<5

TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELLS
ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
Dave's Pit Stop
7001 Highway 116 at Mirabel Road
Forestville, California
Clearwater Group Project No. ZB187C

WELL ID	Sample Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
	10-Sep-01	182.47	10.32	172.15	<50	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<20	<5	<5
	11-Dec-01	182.47	7.81	174.66	<50	<0.5	<0.5	<0.5	<0.5	**54**	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5
	18-Mar-02	182.47	7.52	174.95	<50	<0.5	<0.5	<0.5	<0.5	**0.87**	<0.5	<0.5	<0.5	<5.0	<0.5	<0.5
	10-Sep-02	182.47	10.22	172.25	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--
MW-3	10-Dec-02	182.47	10.79	171.68	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--
Cont'd	10-Mar-03	182.47	7.91	174.56	<50	<0.5	<0.5	<0.5	<0.5	**74**	<0.5	<0.5	<0.5	<5.0	--	--
	13-Jun-03	182.47	8.23	174.24	<50	<0.5	<0.5	<0.5	<0.5	**1.7**	<0.5	<0.5	<0.5	<5.0	--	--
	11-Sep-03	182.47	9.48	172.99	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--
	4-Dec-03	182.47	9.57	172.90	<50	<0.5	<0.5	<0.5	<0.5	**5.3**	<0.5	<0.5	<0.5	<5.0	--	--
	4-Mar-04	182.47	5.99	176.48	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--
	10-Jun-04	182.47	8.62	173.85	<50	**0.55**	<0.5	<0.5	**0.76**	**0.68**	<0.5	<0.5	<0.5	<5.0	--	--

Notes:

TOC	Top of casing elevation at well in feet above mean sea level, Surveyed to benchmark 9/10/02
DTW	Depth to water in well below top of casing
GWE	Groundwater elevation in well: TOC-DTW
TPHg	Total petroleum hydrocarbons as gasoline by EPA Method 8015 (modified)
BTEX	Benzene, Toluene, Ethylbenzene, total Xylenes by EPA Method 8020
MTBE	Methyl tert-butyl ether by EPA Method 8260
TAME	Tert-amyl methyl ether by EPA Method 8260
ETBE	Ethyl tert-butyl ether by EPA Method 8260
DIPE	Di-isopropyl ether by EPA Method 8260
TBA	Tert-butyl ethanol by EPA Method 8260
1,2-DCA	1,2 Dichloroethane by EPAM 8260
EDB	1,2 Dibromoethane by EPAM 8260
µg/L	Micrograms per liter
<#	Not detected in concentrations exceeding reporting limit (#)

MAILED TO DMV 4/20/04

~~Muir~~/Diablo Occupational Medic.
[X] 2231 Galaxy Court, Concord, CA 94520
(925) 685-7744 Fax (925) 685-0462

☐ 1981 N. Broadway, Suite 190
Walnut Creek, CA 94596
(925) 932-7715 Fax (925) 932-0603

☐ Preplacement/Baseline
☐ Return to Work Evaluation
☐ Exit Exam
[X] Periodic Exam

EMPLOYEE: Velasco, Jose
POSITION:
EMPLOYER: Gregg Drilling

CONFIDENTIAL

John P. Gunderson, M.D.
Medical Director

Wesley P. Chan, M.D., M.P.H.
Associate Medical Director

G.L. Hamilton, P.A.
Clinical Coordinator

MEDICAL EVALUATION AND WORK RESTRICTIONS REPORT

This employee was examined on 4/12/04. The original copy of this examination has been retained in this office. If previously arranged, a copy of the exam is enclosed for you in a sealed envelope, which is to be placed with the employee's confidential medical records. This is to be opened only by authorized personnel with a documented need to know. The employee has been advised of the results of this examination and a full copy of the exam is routinely made available to the personal physician on request.

The following recommendation is based on a review of the medical and occupational history, diagnostic tests, physical examination and the specific requirements of the position. If no specific requirements of the position have been identified, these recommendations have been made based upon the applicant/employee's knowledge or perception of the job duties and potential hazards. It should be understood that these are recommendations and suggestions only and the company has the final responsibility for work restrictions, taking into account all relevant factors in the work situation. It should be noted that any additional medical information provided at any time henceforth might serve to modify these recommendations.

1. THE FOLLOWING EVALUATIONS WERE PERFORMED:

[X] A. Respirator worker evaluation, ANSI 288.6-1984 (29 CFR 1910-134) (CAL OSHA Title 8-5144). Recommendations regarding limitations on the use of personal protective respirators are:

[X] Class 1 - unrestricted ☐ Class 2 - restricted ☐ Class 3 - prohibited

RESPIRATOR FIT TESTING BY A QUALIFIED PROFESSIONAL IS MANDATORY. A FIELD TRIAL FOR RESPIRATORY TOLERANCE IS RECOMMENDED.

[X] B. Audiometric booth test (ANSI 53.6 1969; Rev. 1989) (29 CFR 1910-95)

[X] Satisfactory ☐ Hearing impairment noted that may affect ability to safely perform required tasks.

WORKERS EXPOSED TO EXCESSIVE NOISE SHOULD WEAR APPROPRIATE HEARING PROTECTIVE DEVICES.

☐ C. Asbestos clearance in accordance with (29 CFR 1926.58 (m)),(CAL OSHA Title 8-5208)

☐ Qualified ☐ Unqualified Date of most recent chest X-ray: ______

[X] D. Haz-Mat worker in accordance with: SARA/TITLE III: (29 CFR 1910-120 (F)); (CAL OSHA Title 8-5192) Exam

[X] Qualified ☐ Unqualified

[X] E. D.O.T. Driver medical certification

[X] Certificate Issued: [X] Yes ☐ No ☐ Corrective Lenses ☐ Hearing Aid Expiration Date: 4/12/06

☐ F. Drug Screen: ☐ Collection Only

2. SUMMARY / RECOMMENDATIONS

[X] A. The examination indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training. He/she has no detected medical condition which would increase his/her risk of material health impairment from hazardous occupational exposures.

☐ B. The examinations indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training.

☐ C. Suggested restrictions on work activities or exposures: ______

☐ D. Other ______

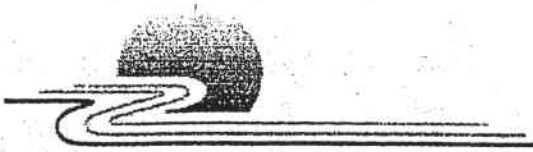
☐ E. This is a PRELIMINARY REPORT pending receipt of further information

Medical examiner's name Gary Hamilton PA M.D. Signature [signature] Date 4/15/04

John Gunderson

CONFIDENTIAL

2004 REV. 11/02



HERBERT AND ASSOCIATES

ENVIRONMENTAL HEALTH AND SAFETY

CERTIFICATE OF AWARD

THIS CERTIFICATE RECOGNIZES THAT

JOSE VELASCO

HAS SUCCESSFULLY COMPLETED

29 CFR 1910.120
OSHA 40 HOUR HAZWOPER

October 6 through October 10, 2003

Elizabeth L. Herbert

TRAINER

Certificate of Completion

This certificate is presented to

Jose Velasco

has successfully completed the

Hazardous Waste Operations & Emergency Response Training

Title 8. California Code of Regulation, Sections 5192 (q) (8) (A)

ISSUED BY

CINTAS FIRST AID & SAFETY 1625 NEPTUNE DR SAN LEANDRO, CA 94577

CERTIFICATE NUMBER 2004-0355-1011

Issued: December 23, 2004 Expires: December 23, 2005

David R Parrott

INSTRUCTOR David R. Parrott

Certificate of Recognition

This certificate is presented to

Jose Velasco

has completed the

Respiratory Protection Training & Fit Testing

TRAINING ORGANIZATION

CINTAS FIRST AID & SAFETY 1625 NEPTUNE DR. SAN LEANDRO, CA 94577

Class Date: December 23, 2004
Company Name: Gregg Drilling

MATT LOWE
Instructor: Matt Lowe

Compliance Solutions

"Today's Training... Tomorrow's Solution"

10515 E 40th Ave, Suite 116, Denver Colorado 80239 800-711-2706

Student Affiliation:
Gregg Drilling & Testing, Inc.
12879

Certificate of Completion

This is to certify that

Sean Rakow

has successfully completed the classroom requirements for

40 Hour HAZWOPER

29 CFR 1910.120(e)

Presented

Friday, July 30, 2004

Compliance Solutions Occupational Trainers, Inc.

Certificate Number: *60298*

Neval Gupta
Vice President

Erik Eriksen
Instructor

Muir/Diablo Occupational Medicine
2231 Galaxy Court, Concord, CA 94520
(925) 685-7744 Fax (925) 685-0462
1981 N. Broadway, Suite 190
Walnut Creek, CA 94596
(925) 932-7715 Fax (925) 932-0603

☐ Preplacement/Baseline
☐ Return to Work Evaluation
☐ Exit Exam
☒ Periodic Exam

EMPLOYEE: Rakow, Sean
POSITION: _____
EMPLOYER: Gregg Drilling

CONFIDENTIAL

John P. Gunderson, M.D.
Medical Director
Wesley P. Chan, M.D., M.P.H.
Associate Medical Director
G.L. Hamilton, P.A.
Clinical Coordinator

MEDICAL EVALUATION AND WORK RESTRICTIONS REPORT

This employee was examined on 9/30/04. The original copy of this examination has been retained in this office. If previously arranged, a copy of the exam is enclosed for you in a sealed envelope, which is to be placed with the employee's confidential medical records. This is to be opened only by authorized personnel with a documented need to know. The employee has been advised of the results of this examination and a full copy of the exam is routinely made available to the personal physician on request.

The following recommendation is based on a review of the medical and occupational history, diagnostic tests, physical examination and the specific requirements of the position. If no specific requirements of the position have been identified, these recommendations have been made based upon the applicant/employee's knowledge or perception of the job duties and potential hazards. It should be understood that these are recommendations and suggestions only and the company has the final responsibility for work restrictions, taking into account all relevant factors in the work situation. It should be noted that any additional medical information provided at any time henceforth might serve to modify these recommendations.

1. THE FOLLOWING EVALUATIONS WERE PERFORMED:

☒ A. Respirator worker evaluation, ANSI 288.6-1984 (29 CFR 1910-134) (CAL OSHA Title 8-5144). Recommendations regarding limitations on the use of personal protective respirators are:
☒ Class 1 - unrestricted ☐ Class 2 - restricted ☐ Class 3 - prohibited
RESPIRATOR FIT TESTING BY A QUALIFIED PROFESSIONAL IS MANDATORY. A FIELD TRIAL FOR RESPIRATORY TOLERANCE IS RECOMMENDED.

☒ B. Audiometric booth test (ANSI 53.6 1969; Rev. 1989) (29 CFR 1910-95)
☒ Satisfactory ☐ Hearing impairment noted that may affect ability to safely perform required tasks.
WORKERS EXPOSED TO EXCESSIVE NOISE SHOULD WEAR APPROPRIATE HEARING PROTECTIVE DEVICES.

☐ C. Asbestos clearance in accordance with (29 CFR 1926.58 (m)),(CAL OSHA Title 8-5208)
☐ Qualified ☐ Unqualified Date of most recent chest X-ray: _____

☒ D. Haz-Mat worker in accordance with: SARA/TITLE III: (29 CFR 1910-120 (F)); (CAL OSHA Title 8-5192) Exam
☒ Qualified ☐ Unqualified

☒ E. D.O.T. Driver medical certification
☒ Certificate Issued: ☒ Yes ☐ No ☐ Corrective Lenses ☐ Hearing Aid Expiration Date: 9/30/06

☐ F. Drug Screen: ☐ Collection Only

2. SUMMARY / RECOMMENDATIONS

☒ A. The examination indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training. He/she has no detected medical condition which would increase his/her risk of material health impairment from hazardous occupational exposures.

☐ B. The examinations indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training.

☐ C. Suggested restrictions on work activities or exposures: _____

OCT 07 2004

☐ D. Other _____

☐ E. This is a PRELIMINARY REPORT pending receipt of further information.

Medical examiner's name Gary Hamilton PA M.D. Signature _____ Date 10/4/04

2004 REV. 11/02 **CONFIDENTIAL**

Muir/Diablo Occupational Medicine
2231 Galaxy Court, Concord, CA 94520
(925) 685-7744 Fax (925) 685-0462
1981 N. Broadway, Suite 190
Walnut Creek, CA 94596
(925) 932-7715 Fax (925) 932-0603

☐ Preplacement/Baseline
☐ Return to Work Evaluation
☐ Exit Exam
☑ Periodic Exam

EMPLOYEE: Rakow, Sean
POSITION: _____
EMPLOYER: Gregg Drilling

CONFIDENTIAL

John P. Gunderson, M.D.
Medical Director

Wesley P. Chan, M.D., M.P.H.
Associate Medical Director

G.L. Hamilton, P.A.
Clinical Coordinator

MEDICAL EVALUATION AND WORK RESTRICTIONS REPORT

This employee was examined on 9/30/04. The original copy of this examination has been retained in this office. If previously arranged, a copy of the exam is enclosed for you in a sealed envelope, which is to be placed with the employee's confidential medical records. This is to be opened only by authorized personnel with a documented need to know. The employee has been advised of the results of this examination and a full copy of the exam is routinely made available to the personal physician on request.

The following recommendation is based on a review of the medical and occupational history, diagnostic tests, physical examination and the specific requirements of the position. If no specific requirements of the position have been identified, these recommendations have been made based upon the applicant/employee's knowledge or perception of the job duties and potential hazards. It should be understood that these are recommendations and suggestions only and the company has the final responsibility for work restrictions, taking into account all relevant factors in the work situation. It should be noted that any additional medical information provided at any time henceforth might serve to modify these recommendations.

1. THE FOLLOWING EVALUATIONS WERE PERFORMED:

☑ A. Respirator worker evaluation, ANSI 288.6-1984 (29 CFR 1910-134) (CAL OSHA Title 8-5144). Recommendations regarding limitations on the use of personal protective respirators are:
☑ Class 1 - unrestricted ☐ Class 2 - restricted ☐ Class 3 - prohibited
RESPIRATOR FIT TESTING BY A QUALIFIED PROFESSIONAL IS MANDATORY. A FIELD TRIAL FOR RESPIRATORY TOLERANCE IS RECOMMENDED.

☑ B. Audiometric booth test (ANSI 53.6 1969; Rev. 1989) (29 CFR 1910-95)
☑ Satisfactory ☐ Hearing impairment noted that may affect ability to safely perform required tasks.
WORKERS EXPOSED TO EXCESSIVE NOISE SHOULD WEAR APPROPRIATE HEARING PROTECTIVE DEVICES.

☐ C. Asbestos clearance in accordance with (29 CFR 1926.58 (m)),(CAL OSHA Title 8-5208)
☐ Qualified ☐ Unqualified Date of most recent chest X-ray: _____

☑ D. Haz-Mat worker in accordance with: SARA/TITLE III: (29 CFR 1910-120 (F)); (CAL OSHA Title 8-5192) Exam
☑ Qualified ☐ Unqualified

☑ E. D.O.T. Driver medical certification
☑ Certificate Issued: ☑ Yes ☐ No ☐ Corrective Lenses ☐ Hearing Aid Expiration Date: 9/30/06

☐ F. Drug Screen: ☐ Collection Only

2. SUMMARY / RECOMMENDATIONS

☐ A. The examination indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training. He/she has no detected medical condition which would increase his/her risk of material health impairment from hazardous occupational exposures.

☐ B. The examinations indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training.

☐ C. Suggested restrictions on work activities or exposures: _____

OCT 07 2004

☐ D. Other _____

☐ E. This is a PRELIMINARY REPORT pending receipt of further information.

Medical examiner's name Gary Hamilton PA M.D. Signature _____ Date 10/4/04

CONFIDENTIAL

Attachment D

COUNTY OF SONOMA — DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION
3273 Airway Drive, Suite D, Santa Rosa, CA 95403-2097
(707) 565-6565 www.sonoma-county.org

APPLICATION FOR DRILLING PERMIT
for Regional Board Lead/Environmental Assessment / LOP Lead

For Office Use Only
Amount paid 310.00
Receipt number 6328
Payment date 1-10-05 Rev. code 1343
Site ID# 2400
Permit # 4503

Well type: [ ] Monitoring well [ ] Recovery extraction well [ ] Boring [ ] Injection well [X] Destruct [ ] Environmental assessment
[ ] *Soil gas survey* [ ] Direct push [ ] Air sparging/venting [ ] Remediation well [ ] Other

Well depth 20 Boring depth

On-site well/boring 3 ID # MW-1, MW-2, MW-3 # Off-site well/boring ID

Submit legal right-of-entry/off-site well address/encroachment permit

On-site Address 7001 Highway 116, Forestville, CA AP#

Facility Name Dave's Pit Stop

On-site Owner Robinson Oil Corp (Attn Thomas Robinson) Phone 408-[illegible]
Street 4250 William Rd. City San Jose State CA Zip 95[illegible]

Responsible Party Dave's Pit Stop (Attn. Dave Zedrick) Phone 707-528-3673
Street P.O. Box 7010 ~~Santa Rosa~~ City Santa Rosa State CA Zip 95407

Consultant Clearwater Group Phone 510-307-9943
Street 229 Tewksbury Ave City Pt. Richmond State CA Zip 94801
License #/Type RG # 4815 RCE # 88 [illegible]

Drilling Contractor Gregg Drilling + Testing Inc. Phone 925-313-5800
Street 950 Howe Rd. City Martinez State CA Zip 94553
C-57 License # 425165

Type of work: [ ] Initial investigation ______ # Wells [ ] Subsequent investigation ______ # Wells [X] Destruct 3 # Wells

Groundwater investigation due to: [X] Underground tank [ ] Surface impoundment [ ] Environmental assessment
[ ] Surface disposal practice—specify involved industry
[ ] Other

Perforated intervals ______ Chemical constituents ______

Disposal method for soil cuttings ______ Disposal method for development water NA

Drilling method HSA Method of drill equip. rinsate containment ______

If destroying a well, abandonment method over drill

Submit plot plan of wells in relation to all sewer or septic lines.

Is well to be constructed within: 100 feet of a septic tank or leachfield? [ ] Yes [ ] No
50 feet of any sanitary sewer line? [ ] Yes [ ] No
25 feet of any private sanitary sewer line? [ ] Yes [ ] No

In addition, all monitoring wells must include ***identification system*** affixed to interior surface:
1) Well identification 2) Well type 3) Well depth 4) Well casing diameter 5) Perforated intervals

Well identification number and well type shall be ***affixed*** to the ***exterior surface*** security structure.

0013430
WELL PER 310.00
TTLAMT 310.00
CHECKS 310.00
CHANGE 0.00
01/10/05 6328 #2 10:24

FROM : AUGER)GROUP>)5102322823>>>>> PHONE NO. : 510+232+2823 Jan. 27 2005 02:36PM P1

For Office Use Only

Address 7021 Highway 116

Site ID# 2400

Permit # 4363

I hereby agree to comply with all laws and regulations of the County of Sonoma and State of California pertaining to water well construction. I will telephone *(707) 565-6565, 48 hours in advance*, to notify the Environmental Health Specialist when completing or destroying a well. I will furnish the *Director of Health Services* and the owner a legible copy of the State Water Well Driller's Report within 15 days; and a copy of the Summary Report, including sample results, should be received by this Department within 90 days in order to obtain final approval on this well permit. I acknowledge that the application will become a permit ***only*** after site approval and payment of fee. I understand that this permit is not transferable and expires one year from date of issuance.

Date 12-16-

*Signature of Well Driller—**no proxies***

Insurance Carrier Seabright CBG40261 Expiration Date 8/1/05

Once all wells/borings are installed, submit a Well Driller's Log and/or Summary Report to complete permit process.

Indicate on attached plot plan the exact location of well(s) with respect to the following items: property lines, water bodies or water courses drainage pattern, roads, existing wells, sewer main and laterals and private sewage disposal systems or other sources of contamination or pollution. INCLUDE DIMENSIONS. The validity of this permit depends upon the accuracy of the information provided by the applicant.

Conditions of permit:

FOR OFFICE USE ONLY – ENVIRONMENTAL HEALTH DIVISION

Permit approved by _____ Date 1-24-05

Constr. approved by _____ Observed? [ ] Yes [ ] No Well # _____ Date ____/____/____

RWQCB / LOP approval _____ Date ____/____/____

monwell.frm.doc (Revised May 2004) Copies: White—File Yellow—Driller Pink—Consultant Gold—Owner/Resp. Party

Attachment E

VAULT REMOVED - MW-2
MARCH 2, 2005
Dave's Pit Stop
7001 Highway 116 at Mirabel Road
Forestville, CA

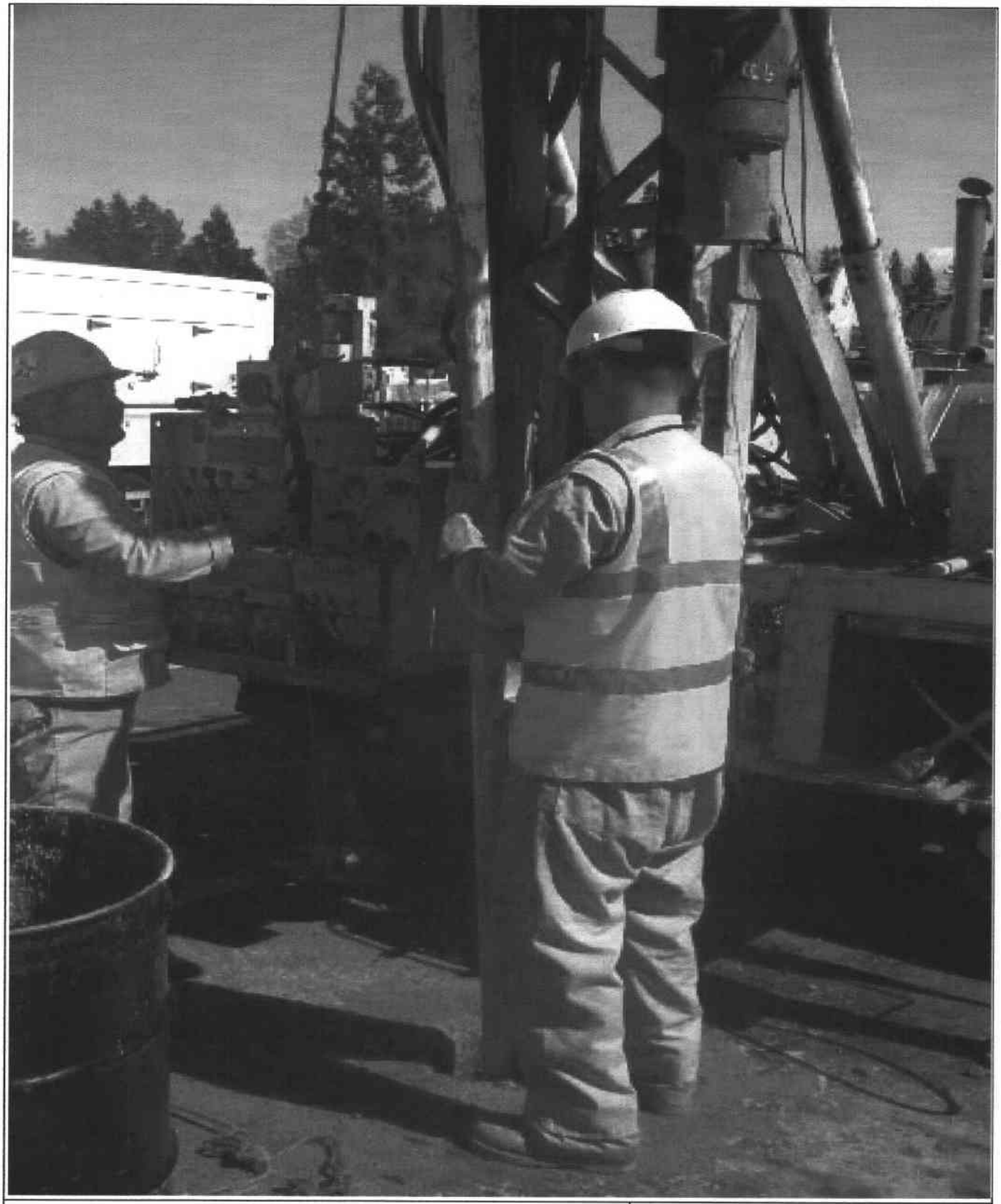
CLEARWATER GROUP

Project No.	Photo Date	Photo
ZB187D	**09/05**	1

OVER DRILL - MW-1
MARCH 2, 2005
Dave's Pit Stop
7001 Highway 116 at Mirabel Road
Forestville, CA

CLEARWATER GROUP

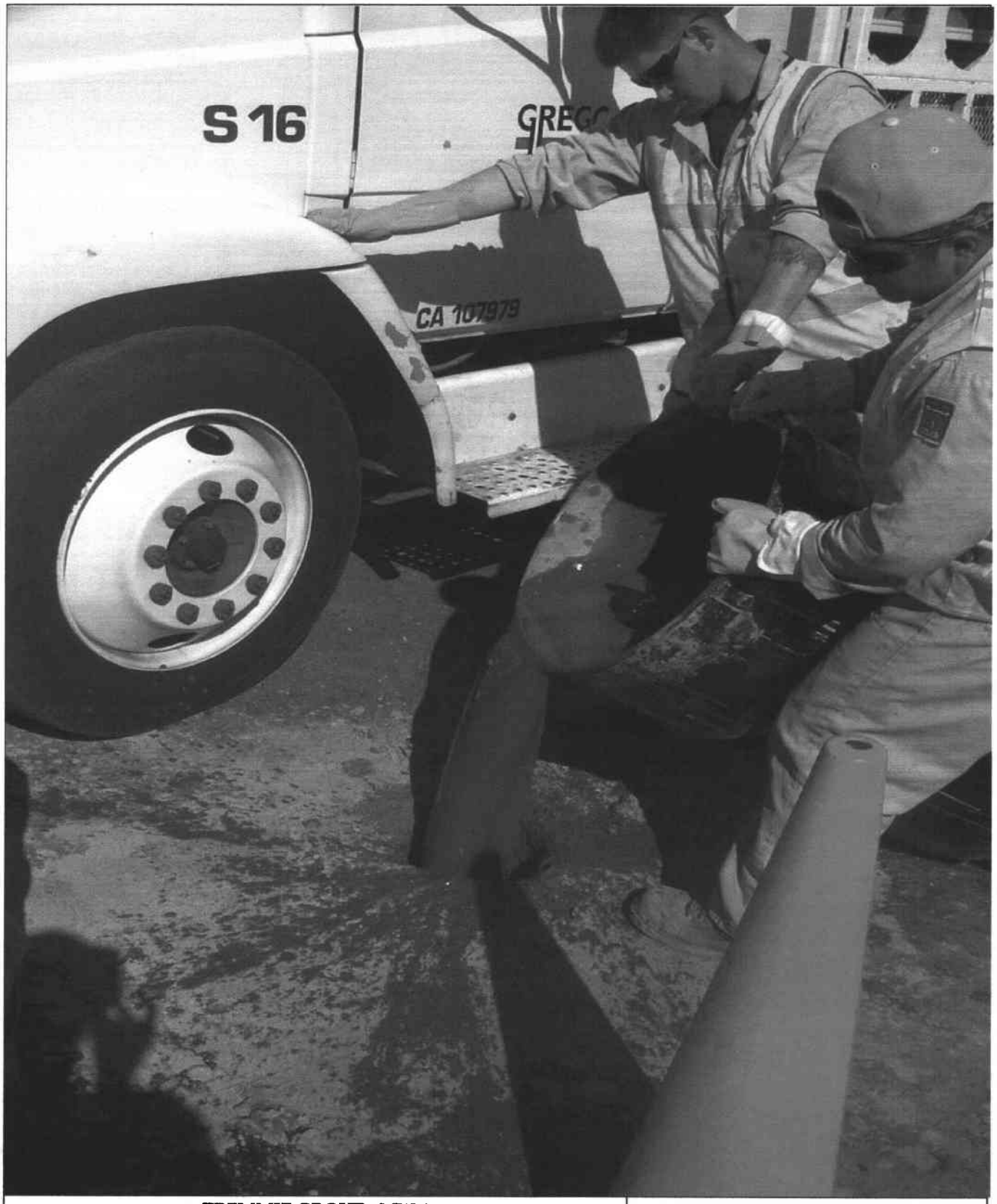
Project No.	Photo Date	Photo
ZB187D	**09/05**	2



SCREEN REMOVAL - MW-1
MARCH 2, 2005
Dave's Pit Stop
7001 Highway 116 at Mirabel Road
Forestville, CA

CLEARWATER GROUP

Project No.	Photo Date	Photo
ZB187D	**09/05**	3



TREMMIE GROUT - MW-1
MARCH 2, 2005
Dave's Pit Stop
7001 Highway 116 at Mirabel Road
Forestville, CA

CLEARWATER GROUP

Project No.	Photo Date	Photo
ZB187D	**09/05**	4

Attachment F

CLEARWATER GROUP, INC.

DAILY FIELD REPORT

Page: 1 of 2

Date: March 2, 2005
Field Engineer/ Technician: J. Papp
Project Name: ~~ZB1827~~ Davis Pit Stop
Project Number: ZB1827D
Company/ Firm: TAG Inc. dba Clearwater Group
Project Manager: J. Chiaro
Site Contact: E. Wagner

TIME	EVENTS/COMMENTS/REMARKS
0630	Departed to Clearwater Group (CWG) office for site
	- partly Cloudy; ~45°F
0800	Arrived on site & went to check in with Ms. Wagner
	- Ms Wagner was not in
	- Drillers have not arrived yet
0805	Verified MW locations
0820	Sample prep => labeling brass cylinders & putting one cap on
	filling out non-hazardous waste drum labels
0810	Gregg Drilling arrives - Joe & Shawn
0845	tailgate Safety mtg
0900	Set-up on MW-3 PID initial reading = 5.1 ppm @ 10' from auger
0910	began destroying MW-3
0916	photo # ~~243~~ 245 (set-up)
0930	PID = 0.9 ppm at auger
0950	15' → water; Sample collection; PID = 0.8 ppm @ auger
	→ wet → soil tan Sandy Silt; Some to much Small gravel; little clay
1010	Auger completely removed from well; PID = 0.7 ppm ~10' from auger
1025	Screen removed
	*note: driller did not have drum dolly so filled drum 3/4th & capped
1035	filled well with cement mixture
1040	moved drill vechile to MW-1 & began set-up; Sunny ~65°F
1055	removed casing PID = 0.9 ppm @ 10' from auger
1100	began w/auger; photo #244
1115	water @ ~10' to 12'; PID = 0.4 ppm @ auger; Sample Collection
	Sample: tan; Sandy Silt; Some to much Small gravel; moist; little clay
1140	removed screen; photo #243; PID = 0.3 ppm @ 10' from rig

Signature: [signature]
Date: 3-2-05
Attachments:
Figures Included:
Page: 1 of 2

CLEARWATER GROUP, INC.

DAILY FIELD REPORT

Date: March 2, 2005 | Page: 2 of 2

Field Engineer/ Technician: J. Popp

Company/ Firm: TAG Inc. dba Clearwater Group

Project Name: Dave's Pit Stop

Project Manager: J. Chiaro

Project Number: ZB187D

Site Contact: E. Wagner

TIME	EVENTS/COMMENTS/REMARKS
1150	Moved rig to MW-2 & began set-up PID = 0.0 ppm @ 10' from auger photo #242 - blocked 3/4rs of driveway (facing Rt. 116)
1210	began with auger
1221	hit something hard ~ @ 18"
1225	PID = 0.1 ppm Call J.C. to see if knew what "something hard" could. Did not know. Specs say Cement for 18"
1230	broke through "something hard."
1245	water ~12'; Sample Collection: clay; Little Small gravel; tan
1250	finished with auger PID = 0.0 ppm ~~10' from~~ auger
1305	Screen removed
1320	Drillers taking break.; 1/2 driveway now blocked
1350	Drillers done with break.; Prepping grout mixture
NOTE:	Drums for MW-1 & MW-2 ~~set~~ HP Drill cuttings filled 3/4 ths. Drum for MW-2 filled 1/2 way
1400	poured mixture ~~into~~ grout MW-1; photo #241
1410	poured grout mixture in MW-2
1425	Drillers tidying up around each well jackhammering opening wider for concrete
1445	moved all 3 drums to ~~South Southe~~ HP east South east part of property
1448	filling wells with dry cement
1500	Capped MW-1 with Concrete } Sufficiently Lined off
1510	Capped MW-2 with Concrete
1517	Capped MW-3 with concrete
1540	Drillers Depart
1543	I departed site
1655	arrived @ Clearwater Group

Signature: J. Popp

Date: 3-2-2005 Attachments: Figures Included:

Attachment G

KIFF ANALYTICAL LLC

Report Number : 42621
Date : 3/9/2005

Jessica Chiaro
Clearwater Group, Inc
229 Tewksbury Avenue
Point Richmond, CA 94801

Subject : 1 Soil Sample
Project Name : Dave's Pit Stop
Project Number : ZB187D

Dear Ms. Chiaro,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff

KIFF ANALYTICAL LLC

Report Number : 42621
Date : 3/9/2005

Project Name : **Dave's Pit Stop**
Project Number : **ZB187D**

Sample : **MW-3,1,2** Matrix : Soil Lab Number : 42621-01
Sample Date :3/2/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	3/4/2005
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	3/4/2005
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	3/4/2005
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	3/4/2005
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	3/4/2005
Diisopropyl ether (DIPE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	3/4/2005
Ethyl-t-butyl ether (ETBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	3/4/2005
Tert-amyl methyl ether (TAME)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	3/4/2005
Tert-Butanol	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	3/4/2005
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	3/4/2005
Toluene - d8 (Surr)	96.4		% Recovery	EPA 8260B	3/4/2005
4-Bromofluorobenzene (Surr)	106		% Recovery	EPA 8260B	3/4/2005

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 42621

Date : 3/9/2005

QC Report : Method Blank Data

Project Name : **Dave's Pit Stop**

Project Number : **ZB187D**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	3/3/2005
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	3/3/2005
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	3/3/2005
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	3/3/2005
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	3/3/2005
Diisopropyl ether (DIPE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	3/3/2005
Ethyl-t-butyl ether (ETBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	3/3/2005
Tert-amyl methyl ether (TAME)	< 0.0050	0.0050	mg/Kg	EPA 8260B	3/3/2005
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	3/3/2005
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	3/3/2005
Toluene - d8 (Surr)	98.0		%	EPA 8260B	3/3/2005
4-Bromofluorobenzene (Surr)	109		%	EPA 8260B	3/3/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 42621

QC Report : Laboratory Control Sample (LCS)

Date : 3/9/2005

Project Name : **Dave's Pit Stop**

Project Number : **ZB187D**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	0.0400	mg/Kg	EPA 8260B	3/3/05	102	70-130
Toluene	0.0400	mg/Kg	EPA 8260B	3/3/05	102	70-130
Tert-Butanol	0.200	mg/Kg	EPA 8260B	3/3/05	97.2	70-130
Methyl-t-Butyl Ether	0.0400	mg/Kg	EPA 8260B	3/3/05	104	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 42621

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 3/9/2005

Project Name : **Dave's Pit Stop**

Project Number : **ZB187D**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	42597-07	<0.0050	0.0399	0.0398	0.0416	0.0409	mg/Kg	EPA 8260B	3/3/05	104	103	1.44	70-130	25
Toluene	42597-07	<0.0050	0.0399	0.0398	0.0415	0.0408	mg/Kg	EPA 8260B	3/3/05	104	102	1.34	70-130	25
Tert-Butanol	42597-07	<0.0050	0.200	0.199	0.202	0.201	mg/Kg	EPA 8260B	3/3/05	101	101	0.358	70-130	25
Methyl-t-Butyl Ether	42597-07	<0.0050	0.0399	0.0398	0.0432	0.0418	mg/Kg	EPA 8260B	3/3/05	108	105	2.87	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Calscience
Environmental
Laboratories, Inc.

March 10, 2005

Joel Kiff
Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Subject: **Calscience Work Order No.: 05-03-0285**
Client Reference: Dave's Pit Stop

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 3/4/2005 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Stephen Nowak
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Kiff Analytical	Date Received: 03/04/05
2795 2nd Street, Suite 300	Work Order No: 05-03-0285
Davis, CA 95616-6593	Preparation: EPA 3050B / EPA 7471A Total
	Method: EPA 6010B / EPA 7471A
	Units: mg/kg

Project: Dave's Pit Stop

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3,1,2	**05-03-0285-1**	**03/02/05**	**Solid**	**03/04/05**	**03/07/05**	**050304L03**

Comment(s): -Mercury was analyzed on 3/7/2005 12:54:22 PM with batch 050304L06

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	2.24	0.75	1		Molybdenum	ND	0.250	1	
Barium	95.8	0.5	1		Nickel	17.8	0.2	1	
Beryllium	0.566	0.250	1		Selenium	ND	0.750	1	
Cadmium	ND	0.500	1		Silver	ND	0.250	1	
Chromium (Total)	18.0	0.2	1		Thallium	ND	0.750	1	
Cobalt	4.62	0.25	1		Vanadium	16.9	0.2	1	
Copper	12.4	0.5	1		Zinc	54.4	1.0	1	
Lead	11.4	0.5	1						

Method Blank	099-04-007-3,036	N/A	Solid	03/04/05	03/04/05	050304L06

Parameter	Result	RL	DF	Qual
Mercury	ND	0.0835	1	

Method Blank	097-01-002-6,194	N/A	Solid	03/04/05	03/07/05	050304L03

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Molybdenum	ND	0.250	1	
Arsenic	ND	0.750	1		Nickel	ND	0.250	1	
Barium	ND	0.500	1		Selenium	ND	0.750	1	
Beryllium	ND	0.250	1		Silver	ND	0.250	1	
Cadmium	ND	0.500	1		Thallium	ND	0.750	1	
Chromium (Total)	ND	0.250	1		Vanadium	ND	0.250	1	
Cobalt	ND	0.250	1		Zinc	ND	1.00	1	
Copper	ND	0.500	1		Lead	ND	0.500	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Date Received: 03/04/05
Work Order No: 05-03-0285
Preparation: EPA 3050B
Method: EPA 6010B

Project Dave's Pit Stop

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
05-03-0262-34	Solid	ICP 3300	03/04/05	03/07/05	050304S03

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	57	56	50-115	1	0-20	
Arsenic	103	105	75-125	2	0-20	
Barium	219	157	75-125	11	0-20	3
Beryllium	101	102	75-125	1	0-20	
Cadmium	103	104	75-125	1	0-20	
Chromium (Total)	103	104	75-125	1	0-20	
Cobalt	106	104	75-125	2	0-20	
Copper	109	111	75-125	1	0-20	
Lead	102	104	75-125	2	0-20	
Molybdenum	95	97	75-125	2	0-20	
Nickel	102	103	75-125	1	0-20	
Selenium	99	101	75-125	2	0-20	
Silver	105	105	75-125	0	0-20	
Thallium	97	102	75-125	5	0-20	
Vanadium	105	103	75-125	1	0-20	
Zinc	104	105	75-125	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Date Received: 03/04/05
Work Order No: 05-03-0285
Preparation: EPA 7471A Total
Method: EPA 7471A

Project Dave's Pit Stop

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
05-03-0262-34	Solid	Mercury	03/04/05	03/04/05	050304S06

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	95	96	76-136	1	0-16	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Kiff Analytical		Date Received:	N/A
2795 2nd Street, Suite 300		Work Order No:	05-03-0285
Davis, CA 95616-6593		Preparation:	EPA 3050B
		Method:	EPA 6010B

Project: Dave's Pit Stop

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-002-6,194	Solid	ICP 3300	03/07/05	050304-I-03	050304L03

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Antimony	50.0	47.2	94	80-120	
Arsenic	50.0	47.5	95	80-120	
Barium	50.0	54.2	108	80-120	
Beryllium	50.0	48.3	97	80-120	
Cadmium	50.0	51.3	103	80-120	
Chromium (Total)	50.0	51.3	103	80-120	
Cobalt	50.0	53.0	106	80-120	
Copper	50.0	48.9	98	80-120	
Lead	50.0	51.5	103	80-120	
Molybdenum	50.0	50.2	100	80-120	
Nickel	50.0	52.1	104	80-120	
Selenium	50.0	45.6	91	80-120	
Silver	25.0	23.5	94	80-120	
Thallium	50.0	51.0	102	80-120	
Vanadium	50.0	47.8	96	80-120	
Zinc	50.0	51.9	104	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Kiff Analytical		Date Received:	N/A
2795 2nd Street, Suite 300		Work Order No:	05-03-0285
Davis, CA 95616-6593		Preparation:	EPA 7471A Total
		Method:	EPA 7471A

Project: Dave's Pit Stop

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-04-007-3,036	Solid	Mercury	03/04/05	050304-L06	050304L06

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Mercury	0.835	0.858	103	82-124	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 05-03-0285

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike or Matrix Spike Duplicate compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

KIFF ANALYTICAL LLC

2795 Second Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4808

Cal Science Environmental
7440 Lincoln Way
Garden Grove, CA 92841
714-895-5494

Lab No. _____ Page 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF to): Joel Kiff	Geotracker COELT EDD REPORT? _X_ YES ___ NO
Company/Address: Kiff Analytical, LLC	**Sampling Company Log Code:** CWGO
Phone No.: / FAX No.:	**Global ID:** T0609792502
Project Number: ZB187D / P.O. No.: 42621	**EDF Deliverable to (Email Address):** inbox@kiffanalytical.com
Project Name: Dave's Pit Stop	**E-mail address:** inbox@kiffanalytical.com

Project Address: **Sample Designation**	Sampling Date	Sampling Time	Container: Glass Jar	Poly	Amber	Sleeve	Tedlar	Preservative: H_2SO_4	HNO_3	ICE	NONE	$Na_2S_2O_3$	Matrix: WATER	SOIL	AIR	Analysis Request: CAM 17 metals								Date Due:	For Lab Use Only
																								March 10, 2005	
MW-3,1,2	3/2/05		1							X				X		X								X	

Relinquished by: Joel S. Kiff	Date 3/10/05	Time 10:20	Received by:	Remarks: This is a revised COC, now with the correct Sampling Date.
Relinquished by:	Date	Time	Received by:	
Relinquished by:	Date	Time	Received by Laboratory:	Bill to:

KIFF ANALYTICAL LLC

2795 Second Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4808

Cal Science Environmental
7440 Lincoln Way
Garden Grove, CA 92841
714-895-5494

Lab No. 0285

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF to): Joel Kiff	Geotracker COELT EDD REPORT? _X_ YES ___ NO
Company/Address: Kiff Analytical, LLC	Sampling Company Log Code: CWGO
Phone No.: / FAX No.:	Global ID: T0609792502
Project Number: ZB187D / P.O. No.: 42621	EDF Deliverable to (Email Address): inbox@kiffanalytical.com
Project Name: Dave's Pit Stop	E-mail address: inbox@kiffanalytical.com
Project Address:	

Sample Designation	Sampling Date	Sampling Time	Container: Glass Jar	Container: Poly	Container: Amber	Container: Sleeve	Container: Tedlar	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Preservative: NONE	Preservative: $Na_2S_2O_3$	Matrix: WATER	Matrix: SOIL	Matrix: AIR	Analysis Request: CAM 17 metals	Date Due: March 10, 2005	For Lab Use Only
MW-3,1,2	3/3/05		1							X				X		X	X	

Relinquished by: Ken Hall Kiff Analytical	Date: 030305	Time: 1900	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by: CD	Date: 3-4-05	Time: 0815	Received by Laboratory:

Remarks:

Bill to:

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 05 - 03 - 0285

Cooler 1 **of** 1

SAMPLE RECEIPT FORM

CLIENT: KIFF ANALYTICAL **DATE:** 3-4-05

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

_____ Chilled, cooler with temperature blank provided.
_____ Chilled, cooler without temperature blank.
_____ Chilled and placed in cooler with wet ice.
_____ Ambient and placed in cooler with wet ice.
_____ Ambient temperature.
_____ °C Temperature blank.

LABORATORY (Other than Calscience Courier):

3.7 °C Temperature blank.
_____ °C IR thermometer.
_____ Ambient temperature.

Initial: WB

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: ✓ No (Not Intact) : _____ Not Applicable (N/A): _____

Initial: WB

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers for analyses requested	✓		
Proper preservation noted on sample label(s)			✓
VOA vial(s) free of headspace.			✓
Tedlar bag(s) free of condensation			✓

Initial: WB

COMMENTS:

KIFF ANALYTICAL LLC

2795 2nd Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4808

Lab No. 42621 Page 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF To): Jessica Chiaro
Company/Address: Clearwater Group, 229 Tewksbury Ave, Point Richmond, CA
Phone No.: 510-307-9943x FAX No.: 510-232-2823
Project Number: ZB187D P.O. No:
Project Name: Dave's Pit Stop
Project Address: 7001 Hwy 116, Forestville, CA

California EDF Report? ☒ Yes ☐ No
Recommended but not mandatory to complete this section:
Sampling Company Log Code:
Global ID: T0609792502
EDF Deliverable To (Email Address): jchiaro@clearwatergroup.com
Sampler Signature:

Sample Designation	Sampling Date	Sampling Time	Container: 40 ml VOA	Container: SLEEVE	Container: Brass Sleeve	Preservative: HCl	Preservative: HNO_3	Preservative: ICE	Preservative: NONE	Matrix: WATER	Matrix: SOIL	BTEX (8021B)	BTEX/TPH Gas/MTBE (8021B/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	TPH Gas/BTEX/MTBE (8260B)	5 Oxygenates/TPH Gas/BTEX (8260B)	7 Oxygenates/TPH Gas/BTEX (8260B)	5 Oxygenates (8260B)	7 Oxygenates (8260B)	Lead Scav. (1,2 DCA & 1,2 EDB - 8260B)	EPA 8260B (Full List)	Volatile Halocarbons (EPA 8260B)	Lead (7421/239.2) TOTAL (X) W.E.T. (X)	CAM 17 metals	TAT: 12 hr/24 hr/48 hr/72 hr/(std) Std	For Lab Use Only
[MW-3]*	3/2/05	0950			X				X		X						X								X	X	01
[MW-1]*	"	1115			"				"		"																
[MW-2]*	"	1245			"				"		"																

Relinquished by:	Date	Time	Received by:
	3-2-05	1730	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:
	030305	1394	Kiff Analytical

Remarks:
*please combine all 3 samples into composite
*analysis only of composite

Bill to:

Distribution: White - Lab, Pink - Originator

Forms/coc 121001.fh9

Attachment H

WM
FAX COVER SHEET

REDWOOD LANDFILL, INC.
A WASTE MANAGEMENT COMPANY

8950 Redwood Highway
P.O. Box 793
Novato, Ca 94945
(415) 892-2851
(415) 898-1354 Fax

DATE: 8-12-05

TO: JESSICA

COMPANY: CLEARWATER GROUP

FAX NUMBER: 1-707-776-4967

FROM: JIM DONLAN

SUBJECT:

NUMBER OF PAGES (INCLUDING COVER) :

REDWOOD LANDFILL INC.

8950 REDWOOD HIGHWAY
P.O. BOX 793
NOVATO, CALIFORNIA 94948
TEL: (415) 892-2851
FAX: (415) 898-1354

- PERSONS USING THESE PREMISES DO SO AT THEIR OWN RISK.
- CHILDREN AND PETS ARE NOT ALLOWED OUT OF VEHICLES.
- NO RUMMAGING IN DUMP AREA.
- NO SMOKING ON DUMP SITE.
- PLEASE NOTIFY OFFICE OF ANY COMPLAINT.
- THANK YOU.

"By signing, I hereby certify that the below-described material (commodity) contains no infectious, radioactive, volatile, corrosive, flammable, explosive, hazardous, dangerous, or toxic materials or substances or any other material that may violate laws or regulations or that may present a significant risk to human health or the environment, cause a nuisance or otherwise create or expose the landfill to liability."

X Rodney Beard
DRIVER'S SIGNATURE

RECIEVED BY: REDWOOD JD
OPR SIGNATURE:

ACCOUNT NUMBER: 5070803 CUSTOMER: THE AUGER GROUP, INC
PC 065 & PC 069
VEHICLE:
COMMODITY: PC DIRT TIME: 10:11:41 DATE: 08/11/05
Cu. yd.: 3.00 LOAD #: 643800
PER YD. : 18.00 FEE 54.00
QTY: 3.00 DRUM DISPOSAL 15 120.00

SOURCE: 109 FORT BRAGG

*** CHARGE *** TOTAL: 174.00
LOAD TICKET #: 1375526

PC 065 Source: Forestville

INVOICE

Attachment I

QUADRUPLICATE
For Local Requirements

Page 1 of 1
Owner's Well No. MW-1
Date Work Began 3-2-05 Ended 3-2-05
Local Permit Agency Sonoma County Dept. of Env. Health
Permit No. 4563 Permit Date 1-10-05

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 474186

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DEPTH TO FIRST WATER ___ (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft. to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
	Well Vault Removed
	well Overdrilled
	screen removed
	tremmie Grout boring
	cement Cap

TOTAL DEPTH OF BORING 20.5 (Feet)
TOTAL DEPTH OF COMPLETED WELL 20 (Feet)

WELL OWNER

Name Dave's Pit Stop / Ramlow Oil Co. P
Mailing Address 4250 William Rd
San Jose CA 95129
CITY STATE ZIP

WELL LOCATION

Address 7001 Highway 116
City Forestville
County Sonoma
APN Book ___ Page ___ Parcel ___
or
Township ___ Range ___ Section ___
or
Latitude 37.7439 NORTH Longitude 122.404 WEST
DEG. MIN. SEC. DEG. MIN. SEC.

LOCATION SKETCH

NORTH

See Attached
Site Plan (Fig 2)
Prepared by
Clearwater Group
12/02
Job# ZB187

WEST EAST

SOUTH

Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc.
PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

___ NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

X DESTROY (*Describe Procedures and Materials Under "GEOLOGIC LOG"*)

PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
___ Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD HSA FLUID N

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL ___ (Ft.) & DATE MEASURED ___
ESTIMATED YIELD* ___ (GPM) & TEST TYPE ___
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
* *May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft. to Ft.	CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
X Other Site Plan

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Clearwater Group GREGG DRILLING AND TESTING
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

229 Tewksbury Ave Pt. Richmond CA 94801
950 HOWE ROAD MARTINEZ CA 94553
ADDRESS CITY STATE ZIP

Signed [signature] 4/12/2005 485165
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

TRIPLICATE
Owner's Copy

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 474187

Page 1 of 1
Owner's Well No. MW-2
Date Work Began 3-2-05 Ended 3-2-05
Local Permit Agency Sonoma County Dept. of Env. Health
Permit No. 43163 Permit Date FEB-05

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER ___ (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft. to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
	well vault removed
	well overdrilled
	screen removed
	tremmie Grout boring
	Cement CAP

TOTAL DEPTH OF BORING 20.5 (Feet)
TOTAL DEPTH OF COMPLETED WELL 20 (Feet)

WELL OWNER

Name Robinson Oil Corp. (Dave's Pit Stop)
Mailing Address 4200 William Rd
City San Jose State CA Zip 95129

WELL LOCATION

Address 7001 Highway 116
City Forestville
County Sonoma
APN Book ___ Page ___ Parcel ___
or Township ___ Range ___ Section ___
or Latitude 37.7938 NORTH Longitude -122.4105 WEST
DEG. MIN. SEC. DEG. MIN. SEC.

LOCATION SKETCH

NORTH
WEST
EAST
SOUTH

See Attached Site Plan prepared by Clearwater Group Fig 2. Date 12/02
Job # ZB187

Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc.
PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

___ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
X DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

PLANNED USE(S) (✓)

___ MONITORING
WATER SUPPLY
___ Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD HSA FLUID N

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL ___ (Ft.) & DATE MEASURED ___
ESTIMATED YIELD* ___ (GPM) & TEST TYPE ___
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft. to Ft.	TYPE: CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
X Other Site Plan

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Clearwater Group GREGG DRILLING AND TESTI
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 229 Tewksbury Ave CITY Pt. Richmond STATE CA ZIP 94801
Signed ___ WELL DRILLER/AUTHORIZED REPRESENTATIVE
DATE SIGNED 4/12/2005 C-57 LICENSE NUMBER 485165

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

QUADRUPLICATE
For Local Requirements

Page 1 of 1

Owner's Well No. MW-3

Date Work Began 3-2-05, Ended 3-2-05

Local Permit Agency Sonoma County Dept. of Env. Health

Permit No. 4563 Permit Date

STATE OF CALIFORNIA

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. **474188**

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE | LONGITUDE

APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DEPTH TO FIRST WATER ______ (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft. to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
	Well vault removed
	Well overdrilled
	Screen removed
	Tremie grout boring
	Cement cap

TOTAL DEPTH OF BORING 20.5 (Feet)

TOTAL DEPTH OF COMPLETED WELL 20 (Feet)

WELL OWNER

Name Robinson Oil Corp (Laurs Pit Stop)

Mailing Address 4250 William Rd

San Jose CA 95129

CITY STATE ZIP

WELL LOCATION

Address 7001 Highway 116

City Forestville

County Sonoma

APN Book ___ Page ___ Parcel ___

or Township ___ Range ___ Section ___

or Latitude 37.7991 NORTH Longitude -122.4403 WEST

DEG. MIN. SEC. DEG. MIN. SEC.

LOCATION SKETCH

NORTH

See attached site plan prepared by Clearwater Group Fig 2 date 12/02 Job # ZB157

WEST EAST SOUTH

Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc.
PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

___ NEW WELL

MODIFICATION/REPAIR

___ Deepen

___ Other (Specify)

X DESTROY (*Describe Procedures and Materials Under "GEOLOGIC LOG"*)

PLANNED USE(S) (✓)

___ MONITORING

WATER SUPPLY

___ Domestic

___ Public

___ Irrigation

___ Industrial

___ "TEST WELL"

___ CATHODIC PROTECTION

___ OTHER (Specify)

DRILLING METHOD HSA FLUID N

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL ______ (Ft.) & DATE MEASURED ______

ESTIMATED YIELD* ______ (GPM) & TEST TYPE ______

TEST LENGTH ______ (Hrs.) TOTAL DRAWDOWN ______ (Ft.)

* *May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL/GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft. to Ft.	CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)

ATTACHMENTS (✓)

___ Geologic Log

___ Well Construction Diagram

___ Geophysical Log(s)

___ Soil/Water Chemical Analyses

X Other [illegible]

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Clearwater Group GREGG DRILLING AND TESTING MARTINEZ CA 94553

(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

950 HOWE ROAD 229 Tewksbury Ave, Pt. Richmond CA 94801

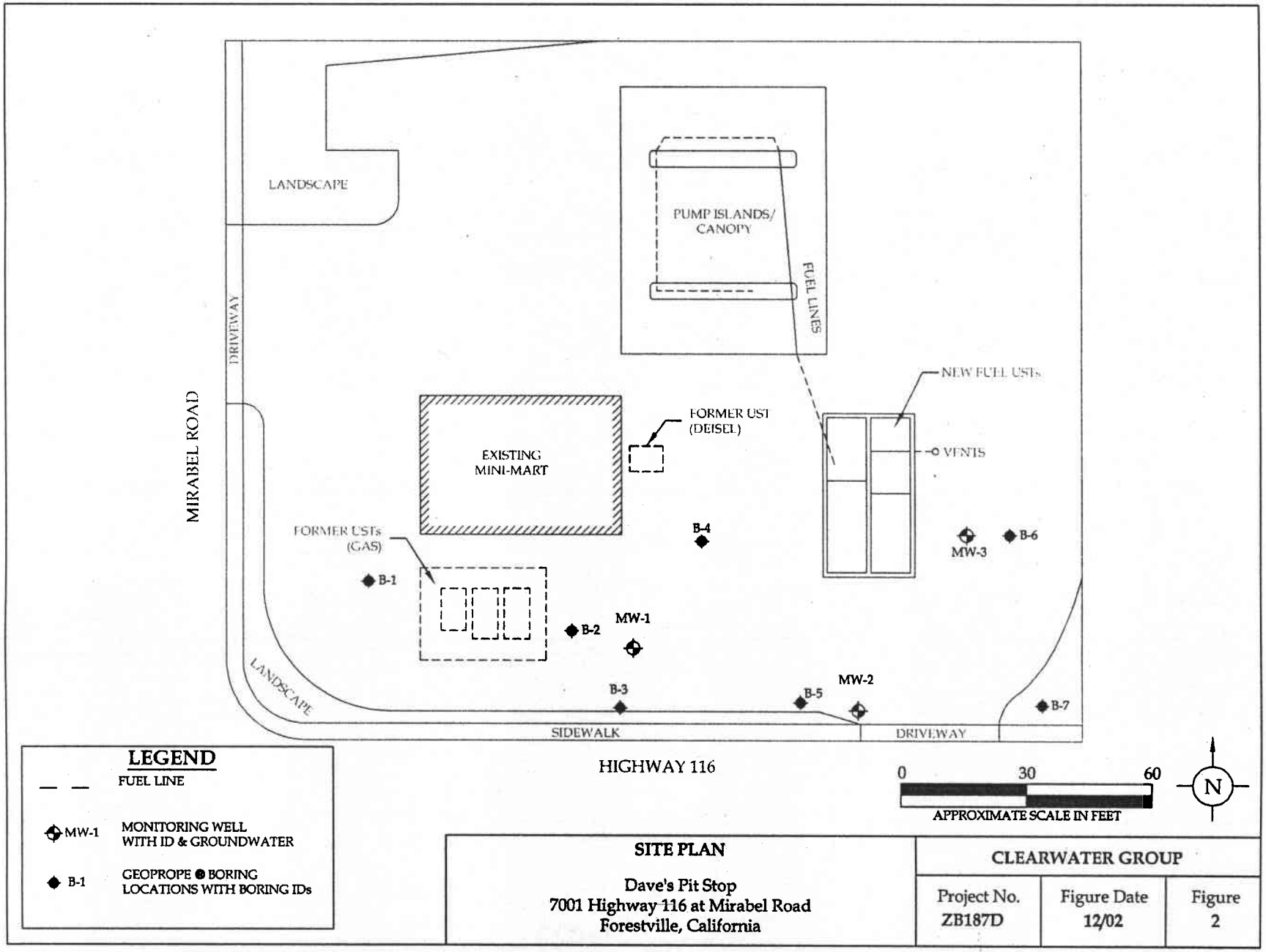
ADDRESS CITY STATE ZIP

Signed [signature] 4/12/2005 485165

WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM



SITE PLAN

Dave's Pit Stop
7001 Highway 116 at Mirabel Road
Forestville, California

CLEARWATER GROUP

Project No.	Figure Date	Figure
ZB187D	12/02	2